

# VIRGINIA

## *Economic Indicators*

# 3

VOL. 39, NO. 3

U.S. 2007 Estimates and 2008-2010 Projections and Virginia Third Quarter 2007 Data with Year-end Area Projections



### FEATURE ARTICLES:

***The Information Sector in Virginia***  
by James P. Wilson

***Trends in Defense Employment—1996 - 2006***  
by James P. Wilson



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## *Economic Indicators*

**U.S. 2007 Estimates and 2008-2010 Projections and Virginia  
Third Quarter 2007 Data with Year-end Area Projections**

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# FOREWORD

For those who are interested in studying the business cycle, the *Virginia Economic Indicators* publication is designed to depict the movement of the key economic indicator series readily available in Virginia. Most of these series are published elsewhere; but here, they are brought together in both graphic and tabular form, under one cover, and grouped so that they may be analyzed and interpreted easily.

Ten of the fourteen series currently used—the two employment series, the four unemployment series, and the four hours and earnings series—are produced in-house by the Economic Information Services Division of the Virginia Employment Commission and are comparable to similar national series produced by the U.S. Department of Labor. The four business indicators are provided by sources outside of the agency (see the Historical Summary at the back of this publication for data sources) and should prove useful to the student of business cycle development in Virginia.

All series currently published in the *Indicators* have been seasonally adjusted to minimize regular seasonal fluctuations in the data in order to show only activity related to the business cycle. The *Virginia Economic Indicators* is currently the only seasonally adjusted publication of some of the Virginia series.

From time to time, new series will be added to this report as the data becomes available and is collected and tested. Also, series presently provided, if necessary, may be discontinued. Historical graphs are published in the back of the fourth quarter issue for each year.

This publication provides a narrative analysis update of the U.S. economy, a narrative analysis of recent changes in Virginia, and highlights of both economies. Also, feature articles dealing with some currently important aspects of the Virginia economy are presented. Feature articles are written in-house or by guest authors knowledgeable on particular economics-related subjects.

This publication is normally produced quarterly in April, July, October, and February, but data in the series is provided on a monthly basis. There is a time lag of one quarter before all the data series are available for publication and analysis.

With the 2002 benchmarks in 2003, all states were required to switch to the North American Industry Classification

System (NAICS) codes which replace the Standard Industrial Classification (SIC) codes formerly used. The NAICS conversion affects the factory employment series and the four hours-and-earnings series in that, where 2001, 2002, 2003, 2004, 2005, 2006, and 2007 data has been revised to NAICS, data prior to this time is still on the old SIC basis with more manufacturing industries. This means a slight break in these series when comparisons are made with former periods prior to 2001.

The main change to manufacturing is that, under NAICS, newspapers and publishing houses are no longer included in manufacturing, and so their employment and earnings are missing from revised 2001, 2002, 2003, 2004, 2005, 2006, and 2007 data.

The U.S. forecast analysis is based on the Global Insight projections which the state purchases. Virginia projections use the state model with enhancements from VEC data for the areas.

Significant advances in printing technologies and the competitive bidding process allowed the production of the current format with its enhancements on an annual contract basis at a substantial cost savings over the previous process and format.

Production and distribution of the *Virginia Economic Indicators*, like most Virginia Employment Commission projects, are financed through specifically-earmarked U.S. Department of Labor grants and do not use Virginia state funding sources.

We welcome any comments, suggestions, or questions concerning *Virginia Economic Indicators*.

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# HIGHLIGHTS

## The U.S. and Virginia Economies



Not since 2001, in the days right after the September 11 terrorist attacks, has the U.S. economy been this difficult to predict. The worsening mortgage/credit crunch appears to still have a ways to run before bottoming out in mid-2008. There were—it now becomes obvious—a lot of bad mortgage loans issued in the cheap credit period of 2002 to 2005. No one quite seems to know the depth of the problem. The Federal Reserve seems to be trying to get a handle on the situation by its series of Fed Funds rate reductions. It now looks like there will be tax rebates, too. Worldwide investors are stepping in to shore-up troubled mortgage lenders. With the weak U.S. dollar value currently, exports are growing rapidly and should give a big boost to the U.S. economy. World oil prices are still high. It looks like the U.S. economy will *narrowly* avoid recession, but will see three quarters of little to minimal GDP growth (Fourth Quarter 2007 through Second Quarter 2008). [A recession is generally considered to be two, or more, consecutive quarters of *negative* growth.] The big problem is any kind of further shock to the economy could probably tip the balance toward recession. The current probability of recession is an unusually high 40 percent. After mid-2008, the economy is expected to start growing again.

Virginia had 1.8 percent average job growth on an annual basis for Third Quarter 2007. As in the nation, Third Quarter 2007 in Virginia was also fairly good economically, but some of the series began to respond to the bad mortgage market news by September. Even with the national problems becoming more evident, the Virginia economy set the following third quarter records: Nonagricultural employment moved forward enough to set new record highs of 3,786,400 in July and 3,793,800 in August; average hourly factory pay reached a new high of \$17.81 in July; and average weekly factory wages reached new heights of \$755.08 in July and \$762.81 in August.

All ten Virginia metropolitan areas experienced annual job growth in 2007. Even the Danville area, which has had big job losses in recent years, turned positive in 2007. The best percentage job gains this year were in the state's six smaller- and medium-sized metropolitan areas—Charlottesville, Harrisonburg, Winchester, Virginia/West Virginia, Lynchburg, Blacksburg-Christiansburg-Radford, and Danville. Still, these six metropolitan areas only account for 12 percent of Virginia's nonagricultural employment. Because of a lot less mortgage/real estate activities, a lackluster federal sector, and higher energy costs, job growth has slowed to near the state average in the four-largest metropolitan areas—Northern Virginia, Virginia Beach-Norfolk-Newport News, Virginia/North Carolina, Richmond, and Roanoke—which constitute 76 percent of the state nonfarm employment base. Although Northern Virginia

growth has slowed from 2.4 percent in 2006 to 1.5 percent in 2007 for the above reasons, Northern Virginia still provided 36.0 percent of all the new jobs in Virginia. The robust professional and business services and private education and health care sectors, concentrated mostly in the metropolitan areas, are “the engines” of Virginia's job growth.

The Consumer Price Index for the United States for All Urban Consumers (CPI-U) averaged 208.2 in Third Quarter 2007. This was a 0.2 percent rise from the 207.7 average for Second Quarter 2007. The Third Quarter 2007 CPI-U average was 2.4 percent greater than the Third Quarter 2006 average of 203.4. The rise in energy prices slowed in Third Quarter 2007 between spikes upward in March-May and October-November.

According to the Bureau of Labor Statistics of the U.S. Department of Labor, output per hour of all persons in the nonfarm business sector rose 6.3 percent during Third Quarter 2007, the largest gain since a 10.4 percent increase in Third Quarter 2003. Output increased 5.7 percent, and hours of all persons engaged in the sector declined 0.6 percent, as revised. Hours growth was the lowest since Second Quarter 2003, when hours fell 1.3 percent. In Second Quarter 2007, productivity had increased 2.2 percent, reflecting gains of 4.2 percent in output and 2.0 percent in hours. Hourly compensation in the nonfarm business sector rose 4.2 percent in Third Quarter 2007. After a downward revision, second quarter hourly compensation increased 1.0 percent. From Third Quarter 2006 to Third Quarter 2007, hourly compensation increased 5.8 percent, the largest four-quarter gain since 2000. When the rise in consumer prices is taken into account, real hourly compensation rose 2.3 percent in Third Quarter 2007 and fell 4.7 percent in the second quarter. Nonfarm business unit labor costs decreased 2.0 percent in Third Quarter 2007 due to the upward revision to productivity and the downward revision to hourly compensation. Nonfarm business unit labor costs also declined 1.1 percent in the second quarter. The implicit price deflator for the nonfarm business sector, which reflects changes both in unit labor costs and in unit nonlabor payments, edged down 0.1 percent in Third Quarter 2007.

According to the Energy Information Administration of the U.S. Department of Energy, Virginia's coal production in the first nine months of 2007, at 21,596,000 short tons mined, was 4.9 percent below the 22,702,000 short tons mined in the similar nine-month period of 2006.

A handwritten signature in cursive script, reading "William F. Mezger".

William F. Mezger, Chief Economist  
Virginia Employment Commission

*Mortgage and energy problems were beginning to impact both the national and Virginia economies.*



# U.S. ECONOMIC OUTLOOK

Forecast Update—2007 Estimates and 2008 - 2010 Projections

William F. Mezger, Chief Economist

The economy has been very erratic for the last two years. Just when it looked like things were slowing down, they would speed-up again. It also is amazing that most situations currently impacting the U.S. economy had their beginnings back around the year 2000.

In July 2007, when all the contributing agencies had updated their information to the latest and best benchmark estimates, it turned out GDP in the U.S. grew at only an annual average rate of 2.9 percent in 2006. (GDP is the output of goods and services produced by labor and property located in the United States and is the key measure of economic gain or loss.)

For the first time in three years, since 2003, U.S. GDP growth failed to quite meet the 3.0 percent average growth rate for the past two decades. The slightly below trend-line growth in 2006 resulted from lackluster business spending, the developing slump in home building, and the impact of energy prices. Consumer spending, exports, and federal government spending, however, remained fairly strong.

The U.S. economy at the beginning of 2007 appeared headed for the classic “7-year” slowdown that has happened in four of the five previous decades. GDP growth slowed to only 0.6 percent in the first quarter.

When GDP figures for Second Quarter 2007 rolled in, it looked like the economy was growing much faster than thought (in spite of a gas price hike). It appeared the 2007 economic “soft landing” had already occurred in the first quarter (only 0.6 percent growth), and the economy was now taking off again. Consumer spending for services, rising exports, booming commercial construction, federal government defense purchases, and increased software purchases were behind the good second quarter gain.

Rapid growth in Third Quarter 2007 and a still strong labor market suggested the economy was doing great, picking up steam from the “speed-bump” slowdown early in 2007. Storm clouds, however, started to gather on the

horizon after midyear from two sources:

- (1) The mortgage situation
- (2) Energy prices

## The mortgage situation

On August 9, 2007, the media blared headlines about “the quickly worsening plight of the residential building and mortgage industries” as the inventory of unsold homes and foreclosures skyrocketed, especially in the sub-prime market, and home prices nosedived.

These problems resulted from super low interest and mortgage rates from 2002 to 2004, many flexible rate mortgages, and much real estate speculation. Interest rates started going up in 2004; and by 2006, many buyers found they could not pay mortgages on property that had started to decline in value.

The Federal Reserve, like the cavalry, came to the rescue, dropping the Fed Funds rate 100 basis points, from 5.25 percent to 4.25 percent between September 18 and December 11. The Federal Reserve continued to lower the Fed Funds rate in January 2008.

The Federal Reserve’s actions have probably put a floor under the financial markets, but the housing market still has a ways to fall, probably not bottoming out until mid- 2008. Look for:

- ◆ more foreclosures
- ◆ fewer homebuyers
- ◆ home price drops nationally of 2.7 percent in 2007 and 6.2 percent in 2008.

## Energy Prices

There were two spikes in gasoline prices to \$3 per gallon in 2007—one in May because of reduced U.S. refinery capacity and one in November due to high world demand. At the end of December 2007, oil and gasoline prices were rising again. After reaching \$3 per gallon again in January 2008, gasoline prices leveled out.

*The economy has been very erratic for the last two years. Just when it looked like things were slowing down, they would speed-up again.*



As a result of the impact of the recent mortgage market/credit crunch and energy shocks to the U.S. economy and their effects on consumer spending, at the end of 2007, the danger of recession in the U.S. is greater than it has been at anytime since the March-November 2001 recession. The recession risk is up to about 40 percent. Any further shock could easily tip the economy into recession.

## 2007 in review

- ◆ First Quarter 2007 saw growth slow to only 0.6 percent, the poorest quarterly growth since Fourth Quarter 2002. The predicted 2007 “soft landing” of the economy appeared at hand.
- ◆ Surprisingly, second quarter GDP growth spiked to 3.8 percent even with the price for regular gasoline reaching \$3 per gallon by May. The economy now accelerated again after the first quarter’s “speed bump.”
- ◆ Third quarter GDP annualized growth was even better with GDP increasing an impressive 4.9 percent as a result of positive contributions from exports, personal consumption, government spending, software purchases, and booming commercial construction. On the other hand, the worsening mortgage situation and the bust in residential construction were negatives. The Federal Reserve in August lowered the discount rate at which banks can borrow and dropped the Fed Funds rate 50 basis points from 5.25 percent to 4.75 percent in September.
- ◆ Final Fourth Quarter 2007 GDP numbers will not be available until late First Quarter 2008, but it now looks like very little (zero to one percent) GDP growth in 2007’s final quarter as the housing and credit crunch and near \$100 per barrel oil threaten “double shocks” to the economy.
- ◆ The Federal Reserve in efforts to bolster the seemingly weakening economy lowered the Fed Funds rate 25 basis points each at its October 30 and December 11 six-week-interval Open Market Committee meetings. The Fed Funds rate was 4.25 percent at the end of 2007.
- ◆ President Bush also proposed a bailout plan for some over-extended mortgage holders, and the Federal Reserve is in the process of issuing new guidelines for the mortgage banking industry.
- ◆ After fairly good sales Thanksgiving weekend, holiday sales were lackluster for much of December,

hampered also by frequent snow and ice storms in the Midwest and Northeast.

- ◆ After spiking to \$3 per gallon for regular gasoline in November, gasoline prices were on the rise again at year’s end. After hitting \$3 per gallon again in January 2008, gasoline prices seem to have leveled out.
- ◆ The year 2007, fortunately, had no major hurricanes to hit the U.S. mainland, but there were devastating wind-driven fires in California both early and late in the year, and a crippling ice storm struck Oklahoma in December.

## Basic economic number averages for 2007 should turn out as follows:

- ◆ Economic growth in 2007 should average 2.2 percent GDP gain because of fairly strong second and third quarters (3.8 percent and 4.9 percent GDP gain, respectively). A weak first quarter (only 0.6 percent growth) and little growth in the final quarter will pull the annual average down.
- ◆ Consumer spending growth should average 2.9 percent. Light vehicle sales should average a fairly good 16.1 million units. Business spending has been mediocre all year at 4.5 percent average growth. Housing has been where most of the 2007 economic weakness occurred. New housing starts fell .46 million units, or 25.4 percent, from 1.81 million units in 2006 to 1.35 million units in 2007. Existing home sales were down .83 million units, or 12.7 percent, from 6.51 million units in 2006 to 5.68 million units in 2007. Federal government spending should average 2.1 percent growth. State and local governments (nationwide) should spend 2.2 percent more in 2007 from previous revenues.
- ◆ After leaving the Fed Funds rate unchanged at 5.25 percent from June 2006 to September 2007, the Federal Reserve lowered the Fed Funds rate 50 basis points to 4.75 percent at the September 18, 2007, Open Market Committee meeting and then lowered the rate 25 basis points two more times (October 30, 2007, and December 11, 2007), ending the year at 4.25 percent. This 1.00 percent reduction in the Fed Funds rate in 2007 was to ease problems stemming from the worsening mortgage market/credit crunch situation. The Fed Funds rate averaged 5.03 percent for 2007.

- ◆ The slowing economy in 2007 reduced consumer prices (or inflation) from a 3.2 percent rate of increase in 2006 to a 2.9 percent rate of increase in 2007. Consumer price inflation was kept fairly high in 2007, by two spikes in energy prices—one in May, to \$3 per gallon for regular gasoline and the other in November, again to \$3 per gallon for regular gasoline. Oil prices were on the rise again in the last days of 2007.
- ◆ The U.S. job growth rate for nonagricultural employment slowed from an average of 1.9 percent in 2006 to 1.3 percent in 2007 as the mortgage/credit crunch situation and high-energy prices began to impact the labor market. The national unemployment rate average held at 4.6 percent for 2007, although some softening became evident by year's end. The job market has thus far been amazingly resilient.

## The Future

Not since 2001, in the days right after the September 11 terrorist attacks, has the U.S. economy been this difficult to predict. The worsening mortgage/credit crunch appears to still have a ways to run before bottoming out in mid-2008. There were—it now becomes obvious—a lot of bad mortgage loans issued in the cheap credit period of 2002 to 2005. No one quite seems to know the depth of the problem. The Federal Reserve seems to be trying to get a handle on the situation by its series of Fed Funds rate reductions in 2007 that are extended into 2008. There also may be tax rebates in 2008. Worldwide investors are stepping in to shore-up troubled mortgage lenders. With the weak U.S. dollar value currently, exports are growing rapidly and should give a big boost to the U.S. economy. World oil prices are still high. It looks like the U.S. economy will *narrowly* avoid recession, but will see three quarters of little to minimal GDP growth (Fourth Quarter 2007 through Second Quarter 2008). [A recession is generally considered to be two, or more, consecutive quarters of *negative* growth.] The big problem is any kind of further shock to the economy could probably tip the balance toward recession. The current probability of recession is an unusually high 40 percent. After mid-2008, the economy is expected to start growing again.

## Outlook for 2008

- ◆ The first half of 2008 is expected to be the greatest chance of recession. After minimal GDP gain in the first part of the year, growth is expected to slowly return in the last half. GDP growth is expected to average just 1.9 percent for 2008.
- ◆ Consumer spending will retrench to just a 1.9 percent average rate of gain as consumers bear-up under the weight of lost home equity, high fuel prices, and a lackluster job market. Light vehicle sales will average lower at 15.5 million units. Housing should finally bottom-out in 2008 at only an average 1.03 million new housing starts and only an average 4.70 million existing home sales. National nominal home prices should drop 6.2 percent in 2008. Businesses will also be tightening their belts with business spending rising a disappointing 2.7 percent on average. Federal government spending in the 2008 presidential election year will average 3.3 percent growth to forward congressional projects, try to wrap up the war in Iraq, and cover some major military projects, like ships, that will be coming to completion. Combined nationwide state and local government spending will be reined in as a result of declining revenues to 1.7 percent average growth.
- ◆ Slow economic growth the first part of the year will reduce job growth to only an 0.8 percent average, and the national unemployment rate will ratchet up to an average 5.1 percent, just over the 5.0 percent level considered to be "full employment."
- ◆ With consumer price inflation (down to 2.2 percent on average) not being a great threat, it now looks like the Federal Reserve will lower the Fed Funds rate several more times by the end of the first half.

## Outlook for 2009

- ◆ GDP will be starting to recover, but will still average below the 3.0 percent long-range growth trend line, at 2.7 percent gain.
- ◆ The consumer, the biggest part of the economy, will be starting to spend again, with consumer spending growth averaging 2.5 percent. Light vehicle sales

*It looks like the U.S. economy will narrowly avoid recession, but will see three quarters of little to minimal GDP growth (Fourth Quarter 2007 through Second Quarter 2008).*

will be up to an average of 16.0 million units as interesting new models come on line. Housing will start to finally recover with new housing starts averaging 1.31 million and existing home sales averaging 5.04 million. Business spending disappoints at only 2.5 percent growth as the 2008 slowdown has reduced profits. Federal government spending is essentially flat (0.1 percent). State and local government spending will only increase an average 0.8 percent as reduced revenues from declining profits and falling real estate values hit home.

- ◆ Nonfarm job growth will only be slightly stronger, at 1.1 percent, and the national unemployment rate stays at 5.1 percent.
- ◆ The Federal Reserve will keep the Fed Funds rate unchanged the first part of the year but gradually inch up the Fed Funds rate late in the year as the economy recovers. Look for the Fed Funds rate to average 4.03 percent for 2009. Consumer price inflation will only average 1.6 percent in the aftermath of the 2008 slowdown.

## Outlook for 2010

- ◆ GDP growth will average 2.8 percent in 2010, still below the 3.0 percent long-range trend line. Things will be gradually improving with some quarters late in the year at trend line as the 2008 slowdown fades into the past. Consumer spending will be rebounding, increasing 2.8 percent on average. Light vehicle sales will improve to 16.4 million units. Housing will finally be on the mend with housing starts rising to 1.54 million and existing home sales up to 5.45 million. Home prices will be starting to appreciate again. Business spending should be better with 3.4 percent growth. Federal government spending will be down 0.5 percent. Collective state and local government spending will still be feeling the effects of a couple years of reduced revenues and will rise only 0.9 percent.
- ◆ The labor market will be coming back with job growth up to 1.3 percent, as labor market demand is upped by baby boomers starting to retire. The national unemployment rate recedes to 5.0 percent, right at the “full employment” level.
- ◆ The Federal Reserve, as the economy improves, will turn its attention once again to its primary objective of controlling inflation with the Fed

Funds rate averaging 4.75 percent. Consumer price inflation, while starting to creep up, will still be only 1.9 percent.

**The baseline forecast has a 50 percent probability.**

## Major Assumptions

- ◆ The Federal Reserve on August 17, 2007, lowered the discount rates at which banks can borrow, making more money available and calming, to some extent, the mortgage and stock market fears. At the September 18, 2007, Open Market Committee meeting, the Federal Reserve, after holding the Fed Funds rate at 5.25 percent since June 2006, lowered the Fed Funds rate 50 basis points, to 4.75 percent. This, in turn, lowered interest rates on many other financial instruments. At subsequent six-week-interval Open Market Committee meetings on October 30 and December 11, the Federal Reserve again dropped the Fed Funds rate 25 basis points each time, ending the year with a Fed Funds rate of 4.25 percent. As it has done in the past, the Federal Reserve once again turned from its primary objective of keeping inflation in check to warding off dangers to economic growth and stability.

The Federal Reserve seems to be getting a handle on the mortgage situation by its series of Fed Funds rate reductions in 2007 that are extended into 2008. The Federal Reserve still has more work to do. Further cuts to nullify the recession risks will likely take place in the first half of 2008. Faster growth by 2009 should cause the Federal Reserve to reverse its actions with the Fed Funds rate averaging 4.03 percent. There should be more tightening in 2010 as the economy gets back nearly on track with the Fed Funds rate averaging 4.75 percent for 2010.

Consumer Price Inflation is projected to be 2.9 percent in 2007. Consumer Price Inflation is expected to be 2.2 percent in 2008, 1.6 percent in 2009, and 1.9 percent in 2010 after a spike of inflation at the beginning of 2008 as energy prices feed through.

- ◆ No major tax initiatives are now expected before the 2008 presidential election. Federal budget deficits are now expected to be \$163 billion in 2007, \$294 billion in 2008, \$340 billion in 2009, and \$351 billion in 2010. Federal government spending is expected to increase 3.3 percent in 2008, then show almost no change in 2009, and be down 0.5 percent in the year 2010. An all-out attempt to win the war in Iraq

in 2008 will mean higher spending that year. The Iraq war should wind down by 2009, regardless of which party sits in the White House. The year 2010 should see spending down 0.5 percent. At press time, it looks like there now will be individual and business tax rebates in 2008.

- ◆ Job growth in 2007 is expected to be 1.3 percent as the mortgage/credit crunch situation and high energy prices begin to slow things down. The forecast is for nonfarm payroll employment growth in the U.S. to be only 0.8 percent in 2008 as the economy slows even more; then job growth will rebound at a rate of 1.1 percent in 2009 and 1.3 percent in 2010.
- ◆ The national unemployment rate is projected to be 4.6 percent in 2007. The slow-to-no-growth economy will push unemployment back up to an average 5.1 percent in both 2008 and 2009 (unemployment is always the “caboose of the economic train”). Then unemployment will be headed back down, receding to average 5.0 percent (“full employment”) by 2010.
- ◆ Declining interest rates and slower growth in the U.S. have been reducing the value of the U.S. dollar. This makes imported goods more expensive to U.S. consumers, but it greatly improves the competitive position of U.S. goods producers. The U.S. trade (or current account) deficit peaked in 2006 at \$812 billion. The year 2007 should see the trade deficit slide to \$747 billion as exports increase faster than imports. This is the first improvement in the trade deficit since the 2001 recession. The trade deficit is expected to further improve to \$675 billion in 2008 and \$656 billion in 2009. By 2010, stronger growth in the U.S. with its big demand for exports will bring the trade deficit back up to \$678 billion. The recent and continuing strong improvement in U.S. exports is a key reason why the baseline forecast has the U.S. economy skirting recession in the first part of 2008.
- ◆ The averages for 2007 are expected to be 1.35 million housing starts and 5.68 million existing home sales, down significantly from a peak 2.07 million housing starts and 7.08 million existing home sales in 2005. A bottoming out of 1.03 million average housing starts and 4.70 million average existing home sales should be seen in 2008; 2009 should see recovery at 1.31 million average housing starts and 5.04 million average existing home sales; and 2010 should have 1.54 million average housing starts and 5.45 million average existing home sales.

- ◆ U.S. light vehicle sales averaged a still fairly good 16.1 million units for all of 2007, and the forecast is for sales to average 15.5 million units in 2008, 16.0 million units in 2009, and 16.4 million units in 2010. The domestic vehicle producers will have to continue to battle the more fuel-efficient foreign-based producers for vehicle market share throughout the forecast period.
- ◆ World oil prices averaged \$72 per barrel in 2007. Regular gasoline spiked to \$3 per gallon in May and November and was on the rise at year’s end. After hitting \$3 per gallon in January 2008, gasoline prices seem to have leveled out. World oil prices are expected to average \$77 per barrel in 2008, then average \$74-75 per barrel in 2009 and 2010 as world demand softens. The very volatile energy sector is the key risk to the forecast.



The **pessimistic alternative** with the housing situation worsening and oil prices going to \$100 per barrel and staying there (probability is an unusually high 40 percent).

The **optimistic alternative** sees technological progress increasing productivity and jobs, and this counters the drains from housing and energy (probability is only 10 percent).

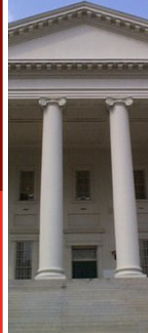
January 29, 2008



# VIRGINIA INDICATORS

## Third Quarter 2007 Data with Year-end Area Employment and Jobless Projections

William F. Mezger  
Chief Economist



As in the nation, Third Quarter 2007 in Virginia was also fairly good economically, but some of the series began to respond to the bad mortgage market news by September. The 14 series that are available to measure economic performance in Virginia show the following on a monthly basis:

- ◆ July was the best month with seven series up, two unchanged, and five down.
- ◆ August was almost neutral with five series up, five unchanged, and four down.
- ◆ September seemed to respond to the bad mortgage market news with two series up, two neutral, and ten down.

Even with the national mortgage market problem becoming more evident, the Virginia economy managed to set the following records in the third quarter:

- ◆ Nonagricultural employment driven by professional and business services, private education and health care, and booming commercial construction, although registering little change on our tables, did manage to move forward enough to set new record highs of 3,786,400 in July and 3,793,800 in August.
- ◆ Average hourly factory pay reached a new high of \$17.81 in July.
- ◆ Average weekly factory wages reached new heights of \$755.08 in July and \$762.81 in August.

Also:

- ◆ Initial unemployment claims and the insured unemployment rate posted the best levels in about 7 years.
- ◆ Total production hours rose to 9,675,000 in July—the best figure in over three years.
- ◆ August's taxable retail sales of \$9,044 million were the second-best ever.

But:

- ◆ September housing starts of 1,951 were the lowest since August 1982.
- ◆ New business incorporations for September, at 1,145, were the lowest since December 1983.
- ◆ New light vehicle registrations, at 37,637 in September, were the lowest since March 2003.

The six-month moving average of rising indicators on page 19 serves to illustrate the quarter's performance. The moving average enhances analysis because it smoothes out much of the irregularity present in many of the individual series.

Preliminary data for the fourth quarter indicates record employment figures for November and December, but external factors are starting to increase the jobless rate.

### Around the State

Virginia had 1.8 percent average job growth on an annual basis for Third Quarter 2007. All ten Virginia metropolitan areas experienced annual job growth in 2007. Even the Danville area, which has had big job losses in recent years, turned positive in 2007. The best percentage job gains this year were in the state's six smaller- and medium-sized metropolitan areas—Charlottesville, Harrisonburg, Winchester, Virginia/West Virginia, Lynchburg, Blacksburg-Christiansburg-Radford, and Danville, especially those with dominant educational institution employers. Still, these six metropolitan areas only account for 12 percent of Virginia's nonagricultural employment. Because of a lot less mortgage/real estate activities, a lackluster federal sector, and higher energy costs, job growth has slowed to around the state average in the four largest metropolitan areas—Northern Virginia, Virginia Beach-Norfolk-Newport News, Virginia/North Carolina, Richmond, and Roanoke—which constitute 76 percent of the state nonfarm employment base. Although

*As in the nation, Third Quarter 2007 in Virginia was also fairly good economically, but some of the series began to respond to the bad mortgage market news by September.*

Northern Virginia growth has slowed from 2.4 percent in 2006 to 1.5 percent in 2007 for the above reasons, Northern Virginia still provided 36.0 percent of all the new jobs in Virginia. The robust professional and business services and private education and health care sectors, concentrated mostly in the metropolitan areas, are “the engines” of Virginia’s job growth. Many of the rural areas (which make up the remaining 12 percent of Virginia nonfarm employment) saw job growth with the exceptions being the Martinsville micropolitan area (smaller than a metropolitan area) and the Galax labor market area, which saw more factory job losses. Rural areas in the upper-half of the state generally continue to outpace those in the lower-half of the state.

◆ **Charlottesville** is consistently one of the best smaller job markets in the United States. Annual employment gains are 3,500, or 3.4 percent, and the area’s nonfarm employment base is now 104,000, having topped 100,000 for the first time in 2006. The driver of the local economy is the University of Virginia and the University Medical Center—state government institutions, which together comprise over one-fifth of area employment. Also helping are the retail and support industries that go along with the university and the research and development, professional and business services, and health-related industries that have located nearby. Thomas Jefferson’s home at Monticello, the Skyline Drive, and the Wintergreen resort boost tourism activities. Most manufacturing that is left in the area is high-tech. **Unemployment** in the Charlottesville area has averaged just above labor shortage in the low 2 percent range in 2007. Charlottesville area unemployment is usually ranked in the best half-dozen of the nation’s 369 metropolitan areas and has ranked first or second several times in the recent past. Albemarle, Fluvanna, and Greene counties sometimes have labor shortage, 2.0 percent or less, unemployment rates.

◆ **Harrisonburg** is also one of the best small job markets in the country with the anchor James Madison University state government complex and its research and support industries. The area has a

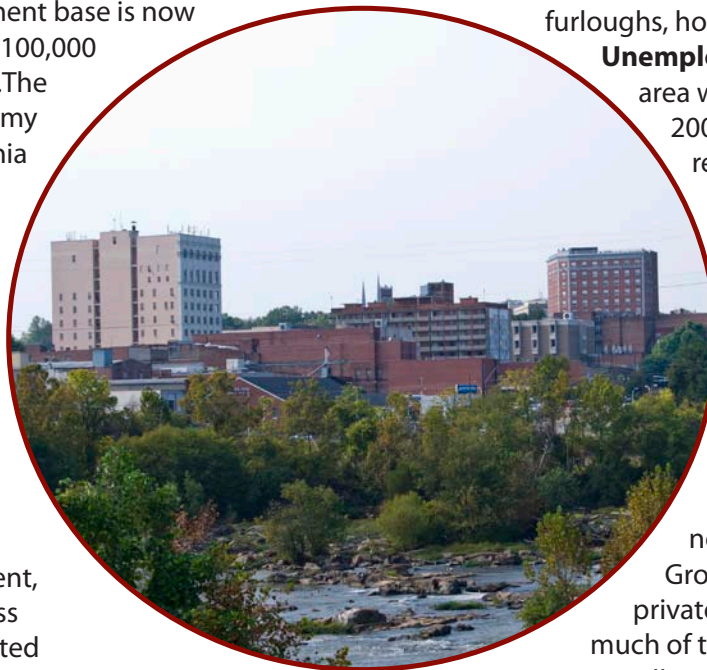
stable mix of agricultural products, heavy industry, high technology, and a start-up biotech center. The Harrisonburg area is expected to see 2,000 new jobs, or 3.0 percent, job growth in 2007 to its 67,000 nonfarm employment base. **Unemployment** remains low to mid-2 percent also putting Harrisonburg among the nation’s dozen-best small metropolitan areas.

◆ **Winchester, Virginia/West Virginia** added 1,400 jobs, or 2.5 percent, to its 61,000 nonfarm employment base. In recent years, the Winchester area has metamorphosed from a largely agricultural and manufacturing economy to a services-based economy, much like its large neighbor to the east, Northern Virginia. Many of the same economic influences that benefit Northern Virginia now also benefit the Winchester area. Some housing-related furloughs, however, did surface in 2007.

**Unemployment** in the Winchester area was close to 3.0 percent in 2007 with vehicle- and housing-related furloughs in Frederick County and in neighboring Shenandoah County and West Virginia, where some Winchester area residents commute, having some slight impact.

◆ **Lynchburg** saw job growth of about 2,500 jobs, or 2.2 percent, to its 112,000 nonfarm employment base. Growth at the area’s several private colleges, as usual, provides much of the area’s job increase. The private colleges and their support industries give a boost to the Lynchburg economy much as the public educational institutions benefit Charlottesville, Blacksburg-Christiansburg-Radford, and Harrisonburg. The still important manufacturing sector was positive as was just about everything else in 2007. **Unemployment** in the Lynchburg area was right at the state average of 3.0 percent in 2007.

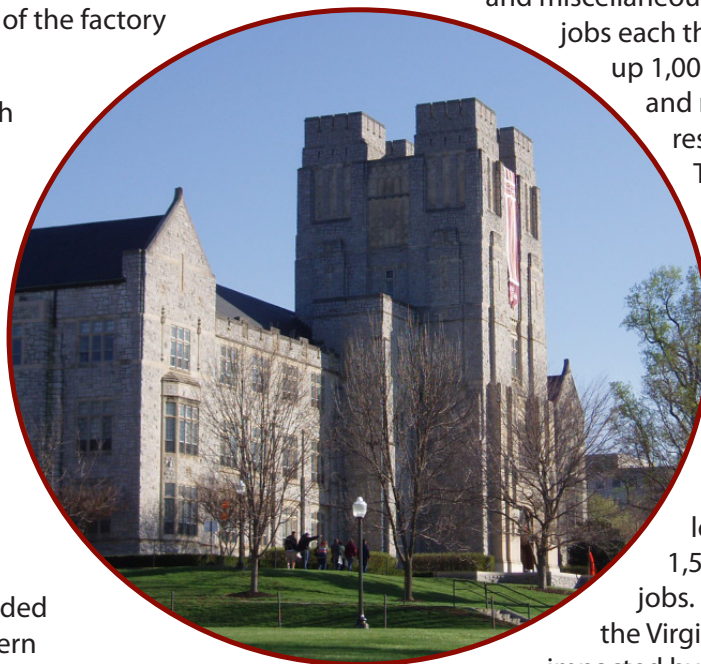
◆ **Danville**, after several years of job loss in the recent past, appears to have turned the corner in 2007. There have been no new big permanent factory furloughs this year; and the large Goodyear tire plant has worked the whole year, whereas in 2006, it was on strike for the entire fourth quarter (strikers are counted as neither employed nor unemployed for statistical purposes). There has been something of a resurgence in the service-providing industries



with retailers and distribution centers adding workers. It looks like 2007 will see the Danville area add 900 jobs to its 43,000 nonfarm base for 2.1 percent job growth. **Unemployment** in the Danville area has fallen to the 5 to 6 percent range, but Danville still has the highest jobless rate of all the ten Virginia metropolitan areas.

- ◆ **Blacksburg-Christiansburg-Radford** added 900 jobs, or 1.2 percent, to its 74,000 nonfarm employment base. The combined employment of Virginia Tech, Radford University, and the support industries that go along with them constitute better than a fifth of the local employment base and provided most of the job growth in 2007. The vehicle- and furniture-related manufacturing industries had some layoffs in 2007. **Unemployment** in this area has been 3 to 4 percent in 2007 because of the factory furloughs.

- ◆ **Northern Virginia**, which now has one-third of all the jobs in the state with a 1.32 million nonfarm employment base, continued to provide the largest total number of jobs in 2007, adding about 20,000 new jobs for a 1.5 percent rate of increase. Northern Virginia's job gain accounted for 36.0 percent of all the jobs added in the entire state. Northern Virginia's "powerhouse" professional and business services, at 348,000 employment, added 9,000 new jobs in the past year and by itself provided 16 percent of the state's job gain. Northern Virginia professional and business services remains a chief source of Virginia's job growth. The Northern Virginia professional and business services sector again leads the way for state and even national job growth. These firms in software design, engineering, architecture, research and development, and business management and consulting, clustered in Alexandria, Arlington County, Fairfax County, Loudoun County, and around the Capital beltway have become the nation's and, to some extent, the world's thinkers, innovators, and creators; and they have to do "their thing" before much of the rest of the nation and the world can prosper. As always,



these firms are undergirded by their contracting with the U.S. federal government, which is why many of them located where they did in the 1960s, 1970s, and 1980s; but contracting with the federal government now constitutes only 30 to 40 percent of their business, and the rest is with customers throughout the world. This sophisticated range of service-providing enterprises is made up of many innovative, flexible, and ambitious small firms. Much of Virginia's recent population expansion is the result of highly trained workers moving to Northern Virginia to go to work for these firms. With this region having one of the nation's top household and per capita income levels, trade and transportation employment has added over 5,000 jobs. The private education and health care industry is growing by nearly 3,000 jobs per year. Leisure and hospitality and miscellaneous services have added 2,000

jobs each this year. Total government is up 1,000 jobs mostly in education, and manufacturing has now resumed positive job growth.

There was a reduction of about 1,300 information industry jobs, the sixth year of decline for this sector, here.

The thing that has slowed Northern Virginia job growth in 2007 is the slump in residential construction, but commercial building has taken up much of the slack, leaving the area with only a 1,500 net loss in construction jobs. Northern Virginia has been the Virginia metropolitan area most

impacted by the national mortgage situation. The residential slump has slightly increased unemployment rates in some outer Northern Virginia counties. Overall **unemployment** in Northern Virginia appears to average 2.2 percent in 2007, the same as in 2006. Northern Virginia's combination of good job growth, high-quality, high-pay jobs available, and very low unemployment make it one of the best labor markets in the entire world. Northern Virginia's technology employers say they could hire even more, if there were more people available who could meet their high-skill requirements. In the national unemployment rankings, Northern Virginia is not treated as a separate area, but as part of the larger Washington-Arlington-Alexandria, D.C./Virginia/Maryland/West Virginia area. If it were treated as a separate area, it



would undoubtedly be, by far, the largest area with the lowest unemployment rate in the country.

- ◆ **Virginia Beach, Norfolk, Newport News, Virginia/North Carolina**, the state's second-largest metropolitan area, has a nonfarm employment base of 783,000. This area, which continued to add jobs right through the 2001 and 2002 recession years, thanks to stepped-up national defense and security measures, remained on a relatively steady 12,000 jobs, or 1.5 percent, growth track in 2007. The growth trend continues even with the negative impact of deployments of military personnel stationed in the area to Iraq and Afghanistan. The negative impact of the deployments to the local economy is to some extent offset by the fact that much of the supplies to support the military efforts in Iraq and Afghanistan are shipped through the port of Hampton Roads. Both the 105,000-strong professional and business services and the 22,000-strong shipbuilding sectors benefit from defense and military contracts, and federal civilian government employment provides 45,000 area jobs. The above sectors, though key to the local economy, appear to have plateaued in 2007, although professional and business services gained 3,000 jobs. This area was the main beneficiary of the 2007, 400th anniversary Jamestown celebration, which helped add 3,000 jobs to the 87,000-job leisure and hospitality sector this year. Tourism, long a staple of this area's economy, seemed to benefit from higher gas prices, causing travelers from the nearby populous Northeast to vacation at Virginia oceanfront resorts, theme parks, and historic attractions rather than journeying to farther away vacation destinations. Trade and transportation, also buoyed by Jamestown tourism, added 3,000 jobs. Residential construction was down, but very strong commercial building activities caused a net construction job increase of 2,500. Private education and health care added approximately 1,500 jobs. Miscellaneous services, finance, information, and local governments all added some workers. The major employment decline is in manufacturing, down about 1,500 jobs because of the closing of the Norfolk Ford Truck assembly plant. **Unemployment** in Hampton Roads has dropped to 3.0 percent in 2007, which is very good considering the Ford closing and the fact that the normal turnover of military dependents in this area adds at least 1 percentage point to the jobless rate. Hampton Roads this year was usually included in the best five major metropolitan areas with lowest unemployment.
- ◆ **Richmond**, the third-largest Virginia metropolitan area, has seen job gains of about 9,500, or 1.5 percent, to its 636,000 nonfarm employment base. A still very strong commercial construction sector, with river front, downtown, and shopping center projects, added 2,500 building jobs. Private education and health care, professional and business services, and trade and transportation each added 2,000 jobs. There were also job increases in miscellaneous services, finance, information, and local government. Factory employment dwindled by 1,500 jobs. **Unemployment** in the Richmond area has declined to 3.0 percent. The Richmond area has consistently ranked among the two- or three-best areas in the country for unemployment among the nation's 49-largest metropolitan areas this year and has ranked first a couple of months.
- ◆ **Roanoke**, Virginia's fourth-largest metropolitan area, has seen job growth of 2,500, or 1.5 percent, to its 166,000 nonfarm employment base. Much of this growth has been in the Roanoke area's employment mainstays of trade and transportation, professional and business services, and private education and health care—service functions, which Roanoke has traditionally provided to much of the rest of Southwest Virginia. Manufacturing, finance, and construction also have added some workers. The single thing that has stood out this year is the gradual expansion of Carilion health services as it strives to make Roanoke a world-class health center. **Unemployment** in the Roanoke area is right around the 3.0 percent mark, right at the statewide average.
- ◆ The **non-metropolitan balance of the state** experienced an overall small net job gain of about 400 in 2007. Generally the nonmetro areas above Interstate 64 saw job growth while those below this major highway suffered job losses. The worst job losses were generally in the Southside jurisdictions along the North Carolina border, especially the Martinsville micropolitan area and the Galax labor market area where new factory closings occurred. The **Southwest Virginia** coalfield counties generally experienced unemployment in the 4 to 5 percent range as the nation's energy situation kept coal demand good. On the other side of the ledger were jurisdictions with very low jobless rates. Most of these were in the upper part of the state. Some jurisdictions with very low unemployment were **Arlington County, Greene County, Albemarle County, Fairfax County, Loudoun County, Clarke County, Fluvanna County, Rappahannock County, Spotsylvania County, and Stafford County.**

## Series start strong, but lose some steam during the Quarter

Nonagricultural payroll employment posted no change (less than the 19,000 change necessary to register plus or minus 0.5 percent) on our pages 18-19 tables for any third quarter month, although nonfarm jobs increased 1,200 in July and 7,400 in August, before receding 2,500 in September. Both the July level of 3,786,400 and the August level of 3,793,800 were new record highs on a seasonally adjusted basis. Factory employment showed an increase from June to July, being up 1,600 to 289,000, but then fell 1,800 to 287,200 in August and was down 800 more (no change on tables) to 286,400 in September.

The four unemployment-related series were showing mixed trends throughout the quarter, being up and down about an equal amount each month although initial claims and the insured unemployment rate posted the best figures in about 7 years. The total seasonally adjusted unemployment rate climbed from 3.0 percent in June to 3.1 percent in July, stayed at that level for August, then dropped back to 2.9 percent for September. Average weekly initial claims were up slightly from 4,423 in June to 4,443 in July, rose more to 4,581 in August, but then fell to 4,214 in September, the best level in almost 7<sup>1/2</sup> years, since April 2000. The insured unemployment rate (the ratio of jobless claimants to those eligible for benefits) was 0.89 percent in June, fell to 0.80 percent in July, and 0.70 percent in August (the lowest since 0.52 percent in December 2000), then rose to 0.96 percent in September. Final payments for unemployment insurance (which to some extent reflect claims activities six months previous) rose from a 12-month low of 2,637 in June to 3,390 in July, dropped back to 2,834 in August, then rose to 3,102 in September.



The four production worker hours and earnings series were all positive in July, pretty much neutral in August, and all negative in September. Length of the workweek rose from 42.2 hours in June to 42.6 hours in July and 42.8 hours in August, but then slid back to 41.7 hours for September. Total production hours rose from 9,514,000 in June to 9,675,000 in July (an over 3-year high), but then trailed off to 9,630,000 in August and 9,374,000 in September. Average hourly factory pay surpassed June's previous high of \$17.66, rising to \$17.81 in July, before receding to \$17.79 in August and \$17.59 in September. The average factory weekly wage surpassed the June record of \$743.96, rising to new levels of \$755.08 in July and \$762.81 in August. September weekly wages were down to \$738.41.

The four, sometimes fickle, business-related series were mostly negative in July, mixed in August, and all negative in September. Single family housing permits rose some from 2,589 in June to 2,660 in July, but then fell to 2,285 for August and 1,951 for September. (The September figure was the lowest since August 1982.) New business incorporations were down from 1,506 in June to 1,343 in July, rose to 1,656 in August, but then fell to 1,145 in September, the lowest level since December 1983. New light vehicle registrations slid all quarter, going from 42,937 in June to 41,532 in July, 41,184 in August, and 37,637 in September. (September's level was the lowest since March 2003.) Taxable retail sales were down from \$8,767 million in June to \$8,715 million in July, rose with the back-to-school tax holiday in August to \$9,044 million (the August level was second-best to the Jamestown Celebration-induced record of \$9,075 million in May 2007), then fell to \$8,498 million in September.

*Northern Virginia, Richmond, and Hampton Roads were among the nation's very best large job markets; and Charlottesville and Harrisonburg were two of the best U.S. small labor areas.*

## EMPLOYMENT INDICATORS

|           | Nonagricultural Wage and Salary Employment*<br>(Thousands) |          | Manufacturing Employment*<br>(Thousands) |          | Total Unemployment Rate*<br>(Percent) |          |
|-----------|--|----------|--|----------|---------------------------------------|----------|
| 2006      | Unadjusted   | Adjusted | Unadjusted                               | Adjusted | Unadjusted                            | Adjusted |
| January   | 3,654.1  | 3,712.0  | 291.3                                    | 292.4    | 3.2                                   | 3.0      |
| February  | 3,664.7  | 3,716.4  | 290.3                                    | 291.6    | 3.2                                   | 2.9      |
| March     | 3,700.7  | 3,726.8  | 289.4                                    | 290.4    | 3.0                                   | 2.9      |
| April     | 3,714.0  | 3,720.0  | 290.5                                    | 291.2    | 2.8                                   | 3.0      |
| May       | 3,743.5  | 3,727.1  | 290.5                                    | 290.9    | 2.8                                   | 2.9      |
| June      | 3,777.5  | 3,736.4  | 291.2                                    | 290.3    | 3.2                                   | 3.0      |
| July      | 3,723.7  | 3,727.1  | 289.3                                    | 290.9    | 3.2                                   | 3.0      |
| August    | 3,719.0  | 3,728.3  | 289.3                                    | 288.6    | 3.2                                   | 3.1      |
| September | 3,732.2  | 3,721.0  | 286.2                                    | 285.3    | 3.1                                   | 3.1      |
| October   | 3,752.0  | 3,734.1  | 284.9                                    | 284.5    | 2.7                                   | 3.0      |
| November  | 3,764.6  | 3,735.8  | 284.8                                    | 283.9    | 2.8                                   | 3.0      |
| December  | 3,768.5  | 3,735.6  | 287.2                                    | 285.6    | 2.7                                   | 2.9      |
| 2007      |  |          |  |          |                                       |          |
| January   | 3,700.9  | 3,759.5  | 286.0                                    | 287.1    | 3.2                                   | 2.8      |
| February  | 3,710.5  | 3,762.8  | 284.5                                    | 285.8    | 3.2                                   | 2.9      |
| March     | 3,747.3  | 3,773.7  | 285.4                                    | 286.4    | 3.1                                   | 3.0      |
| April     | 3,768.0  | 3,774.0  | 286.0                                    | 286.7    | 2.9                                   | 3.1      |
| May       | 3,790.0  | 3,773.4  | 286.1                                    | 286.5    | 2.8                                   | 2.9      |
| June      | 3,826.8  | 3,785.2  | 288.3                                    | 287.4    | 3.2                                   | 3.0      |
| July      | 3,783.0  | 3,786.4  | 287.4                                    | 289.0    | 3.1                                   | 3.1      |
| August    | 3,784.3  | 3,793.8  | 287.9                                    | 287.2    | 3.1                                   | 3.1      |
| September | 3,802.7  | 3,791.3  | 287.3                                    | 286.4    | 2.8                                   | 2.9      |

\* These series have been adjusted to First Quarter 2006 benchmarks.

## UNEMPLOYMENT INSURANCE INDICATORS

|           | Average Weekly Initial Claims |          | Insured Unemployment Rate<br>(Percent) |          | Unemployment Insurance<br>Final Payments |          |
|-----------|-------------------------------|----------|--|----------|--|----------|
| 2006      | Unadjusted                    | Adjusted | Unadjusted                             | Adjusted | Unadjusted                               | Adjusted |
| January   | 7,387                         | 5,085    | 1.16                                   | 0.89     | 3,288                                    | 3,299    |
| February  | 4,521                         | 4,679    | 1.00                                   | 0.86     | 2,873                                    | 3,041    |
| March     | 4,310                         | 4,819    | 0.87                                   | 0.82     | 3,099                                    | 2,672    |
| April     | 3,658                         | 4,510    | 0.83                                   | 0.88     | 3,159                                    | 2,886    |
| May       | 4,089                         | 4,915    | 0.83                                   | 0.87     | 3,497                                    | 3,529    |
| June      | 4,234                         | 4,575    | 0.78                                   | 0.84     | 2,905                                    | 2,612    |
| July      | 5,576                         | 4,960    | 0.95                                   | 0.96     | 2,842                                    | 2,776    |
| August    | 4,331                         | 5,180    | 0.81                                   | 0.90     | 3,409                                    | 3,068    |
| September | 4,237                         | 4,937    | 0.79                                   | 0.93     | 2,500                                    | 2,949    |
| October   | 4,713                         | 5,292    | 0.89                                   | 0.99     | 2,893                                    | 3,266    |
| November  | 5,724                         | 5,832    | 0.90                                   | 0.94     | 2,660                                    | 2,861    |
| December  | 6,647                         | 4,696    | 0.96                                   | 0.93     | 2,618                                    | 2,917    |
| 2007      |                               |          |  |          |  |          |
| January   | 7,301                         | 5,026    | 1.09                                   | 0.84     | 3,506                                    | 3,518    |
| February  | 5,813                         | 6,016    | 1.08                                   | 0.93     | 2,911                                    | 3,081    |
| March     | 4,580                         | 5,121    | 0.95                                   | 0.90     | 3,153                                    | 2,719    |
| April     | 4,265                         | 5,258    | 0.92                                   | 0.98     | 3,054                                    | 2,790    |
| May       | 3,961                         | 4,761    | 0.91                                   | 0.95     | 3,573                                    | 3,605    |
| June      | 4,093                         | 4,423    | 0.83                                   | 0.89     | 2,933                                    | 2,637    |
| July      | 4,995                         | 4,443    | 0.79                                   | 0.80     | 3,470                                    | 3,390    |
| August    | 3,829                         | 4,581    | 0.63                                   | 0.70     | 3,149                                    | 2,834    |
| September | 3,617                         | 4,214    | 0.82                                   | 0.96     | 2,630                                    | 3,102    |

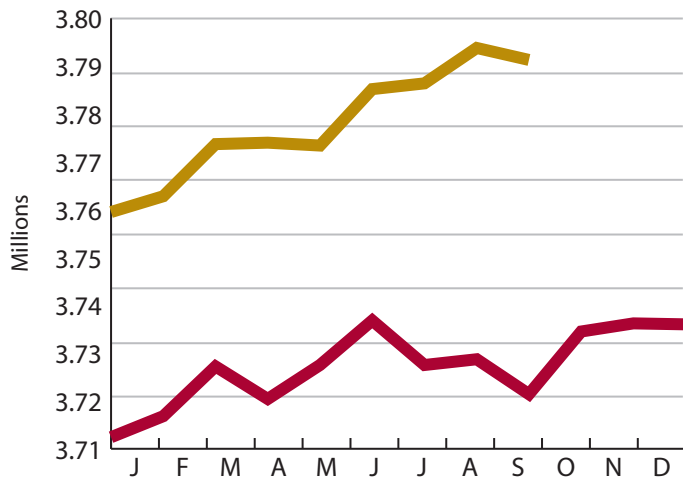
## EMPLOYMENT INDICATORS

January 2006 - September 2007

2006

2007

### Nonagricultural Wage and Salary Employment



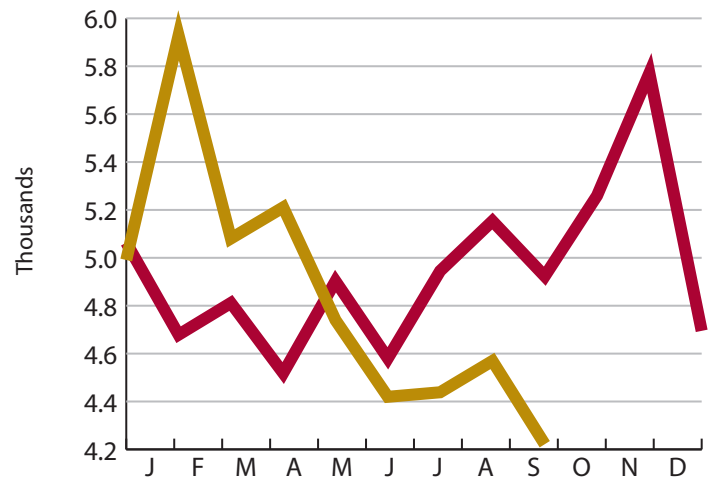
## UNEMPLOYMENT INSURANCE INDICATORS

January 2006 - September 2007

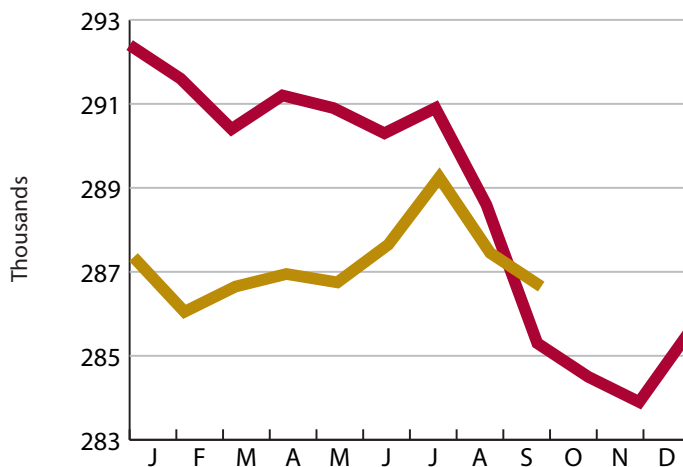
2006

2007

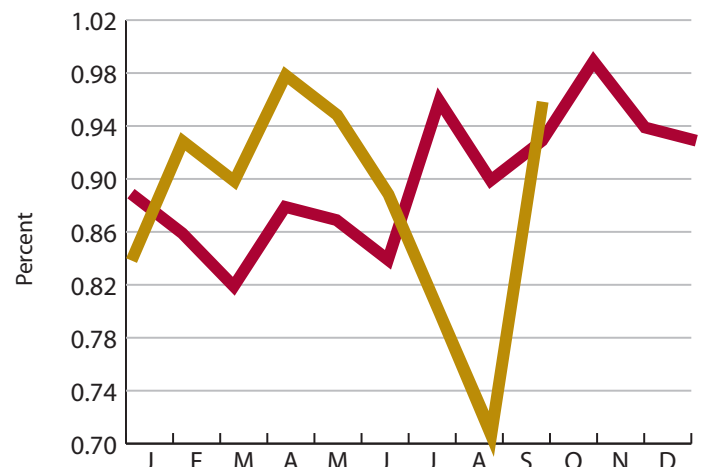
### Average Weekly Initial Claims



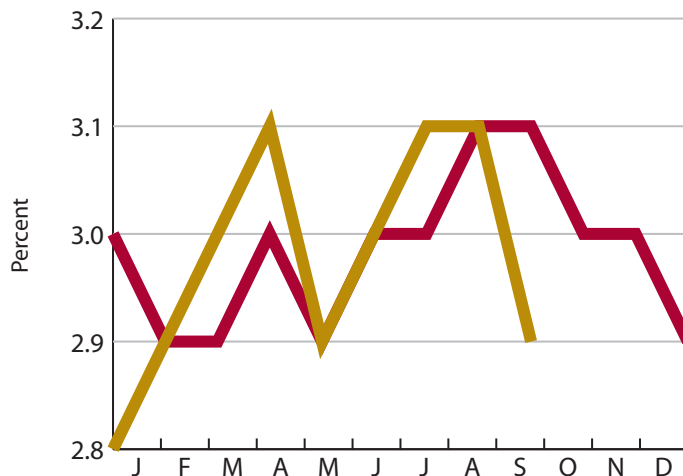
### Manufacturing Employment



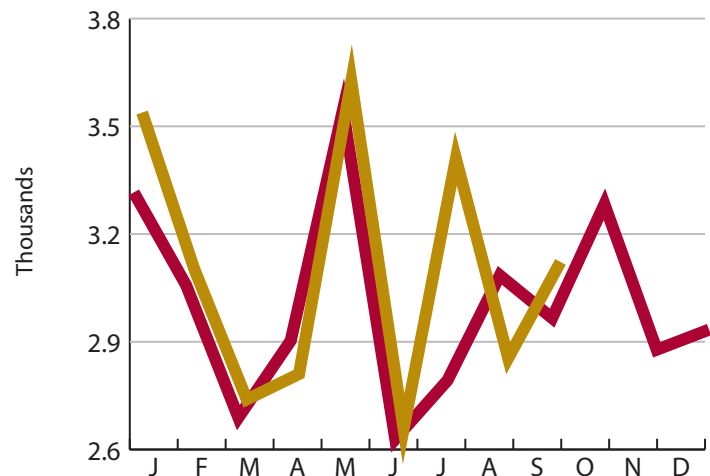
### Insured Unemployment Rate



### Total Unemployment Rate



### Unemployment Insurance Final Payments



## MANUFACTURING PRODUCTION WORKER INDICATORS

| Average Weekly Hours* |            |          | Average Hourly Earnings*<br>(Dollars) |          | Deflated Average Hourly Earnings*<br>(1982-84 Dollars) |          |
|-----------------------|------------|----------|---------------------------------------|----------|--|----------|
| 2006                  | Unadjusted | Adjusted | Unadjusted                            | Adjusted | Unadjusted   | Adjusted |
| January               | 41.7       | 41.5     | 16.51                                 | 16.51    | 8.51   | 8.46     |
| February              | 40.9       | 41.0     | 16.71                                 | 16.66    | 8.60   | 8.54     |
| March                 | 40.9       | 41.2     | 16.75                                 | 16.81    | 8.58   | 8.63     |
| April                 | 40.6       | 41.1     | 16.70                                 | 16.63    | 8.47   | 8.46     |
| May                   | 41.5       | 41.2     | 16.63                                 | 16.67    | 8.39   | 8.43     |
| June                  | 41.8       | 41.4     | 16.81                                 | 16.76    | 8.46   | 8.46     |
| July                  | 41.4       | 42.2     | 16.62                                 | 16.70    | 8.34   | 8.40     |
| August                | 40.8       | 41.3     | 16.70                                 | 16.80    | 8.37   | 8.44     |
| September             | 41.4       | 41.4     | 16.74                                 | 16.75    | 8.44   | 8.47     |
| October               | 41.3       | 41.0     | 16.91                                 | 16.92    | 8.58   | 8.61     |
| November              | 40.8       | 40.7     | 16.89                                 | 16.93    | 8.58   | 8.58     |
| December              | 42.1       | 41.2     | 16.99                                 | 16.85    | 8.62   | 8.49     |
| 2007                  |            |          |                                       |          |  |          |
| January               | 41.3       | 41.1     | 17.07                                 | 17.07    | 8.64   | 8.59     |
| February              | 41.1       | 41.2     | 17.05                                 | 17.00    | 8.59   | 8.52     |
| March                 | 41.6       | 41.9     | 17.07                                 | 17.14    | 8.51   | 8.56     |
| April                 | 41.1       | 41.6     | 17.34                                 | 17.27    | 8.58   | 8.57     |
| May                   | 41.5       | 41.2     | 17.26                                 | 17.30    | 8.47   | 8.51     |
| June                  | 42.6       | 42.2     | 17.71                                 | 17.66    | 8.69   | 8.68     |
| July                  | 41.8       | 42.6     | 17.73                                 | 17.81    | 8.70   | 8.76     |
| August                | 42.3       | 42.8     | 17.68                                 | 17.79    | 8.70   | 8.77     |
| September             | 41.7       | 41.7     | 17.58                                 | 17.59    | 8.62   | 8.66     |

## MANUFACTURING PRODUCTION WORKER INDICATORS (CONTINUED)

| Total Production Hours*<br>(Thousands) |            |          | Average Weekly Earnings*<br>(Dollars) |          | Deflated Average Weekly Earnings*<br>(1982-84 Dollars) |          |
|--|------------|----------|---------------------------------------|----------|--|----------|
| 2006                                   | Unadjusted | Adjusted | Unadjusted                            | Adjusted | Unadjusted   | Adjusted |
| January                                | 9,412      | 9,396    | 688.47                                | 684.43   | 354.88   | 351.19   |
| February                               | 9,211      | 9,260    | 683.44                                | 687.36   | 351.93   | 352.81   |
| March                                  | 9,194      | 9,295    | 685.08                                | 690.60   | 350.78   | 352.44   |
| April                                  | 9,172      | 9,281    | 678.02                                | 682.46   | 343.82   | 345.73   |
| May                                    | 9,375      | 9,312    | 690.15                                | 685.76   | 348.21   | 347.17   |
| June                                   | 9,464      | 9,351    | 702.66                                | 692.89   | 353.81   | 350.10   |
| July                                   | 9,319      | 9,587    | 688.07                                | 701.04   | 345.42   | 352.54   |
| August                                 | 9,233      | 9,313    | 681.36                                | 694.98   | 341.36   | 349.15   |
| September                              | 9,269      | 9,253    | 693.04                                | 698.07   | 349.31   | 353.27   |
| October                                | 9,210      | 9,122    | 698.38                                | 693.18   | 354.51   | 352.71   |
| November                               | 9,086      | 9,053    | 689.11                                | 689.45   | 350.16   | 350.30   |
| December                               | 9,464      | 9,213    | 715.28                                | 694.51   | 362.72   | 350.38   |
| 2007                                   |            |          |                                       |          |  |          |
| January                                | 9,251      | 9,235    | 704.99                                | 700.85   | 356.85   | 353.14   |
| February                               | 9,157      | 9,206    | 700.76                                | 704.78   | 352.95   | 353.83   |
| March                                  | 9,289      | 9,391    | 710.11                                | 715.84   | 353.97   | 355.64   |
| April                                  | 9,227      | 9,337    | 712.67                                | 717.33   | 352.58   | 354.53   |
| May                                    | 9,300      | 9,238    | 716.29                                | 711.73   | 351.71   | 350.66   |
| June                                   | 9,628      | 9,514    | 754.45                                | 743.96   | 370.00   | 366.12   |
| July                                   | 9,405      | 9,675    | 741.11                                | 755.08   | 363.82   | 371.33   |
| August                                 | 9,547      | 9,630    | 747.86                                | 762.81   | 368.04   | 376.44   |
| September                              | 9,391      | 9,374    | 733.09                                | 738.41   | 359.55   | 363.63   |

\* These series have been adjusted to First Quarter 2006 benchmarks.



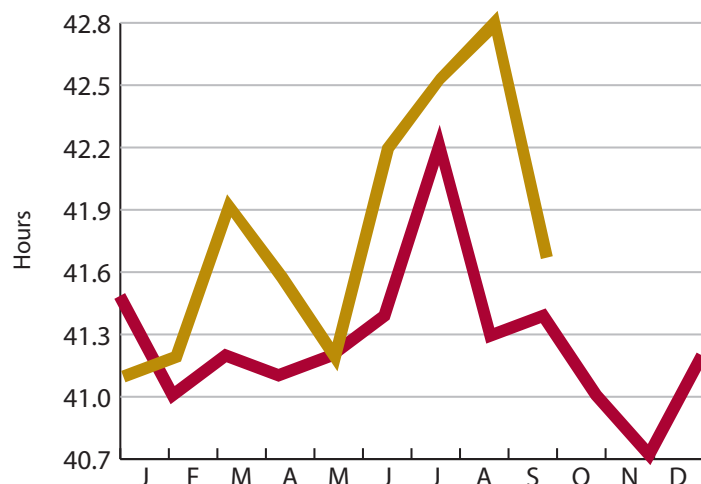
# MANUFACTURING PRODUCTION WORKER INDICATORS

January 2006 - September 2007

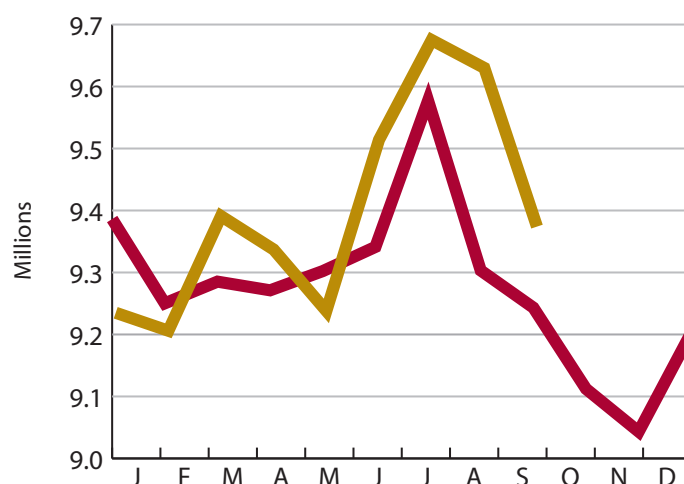
2006

2007

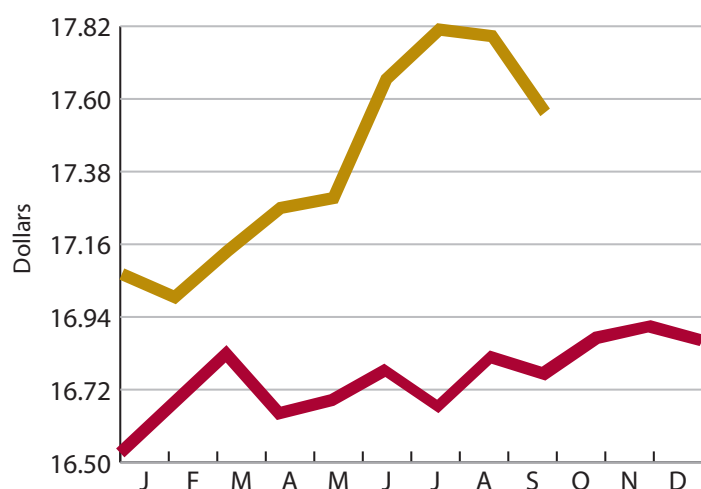
## Average Weekly Hours



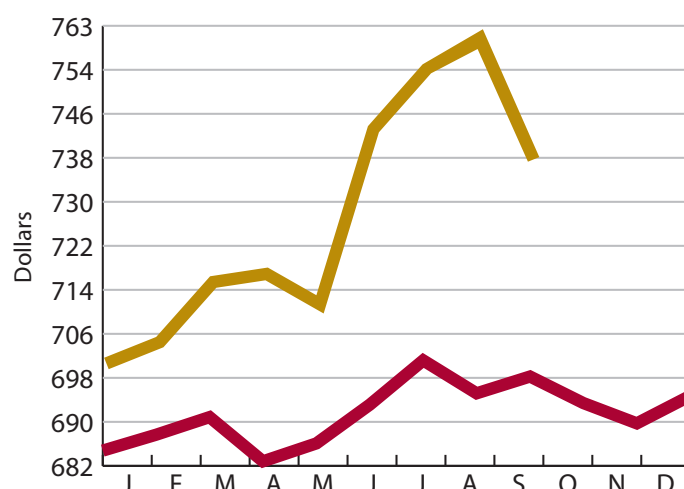
## Total Production Hours



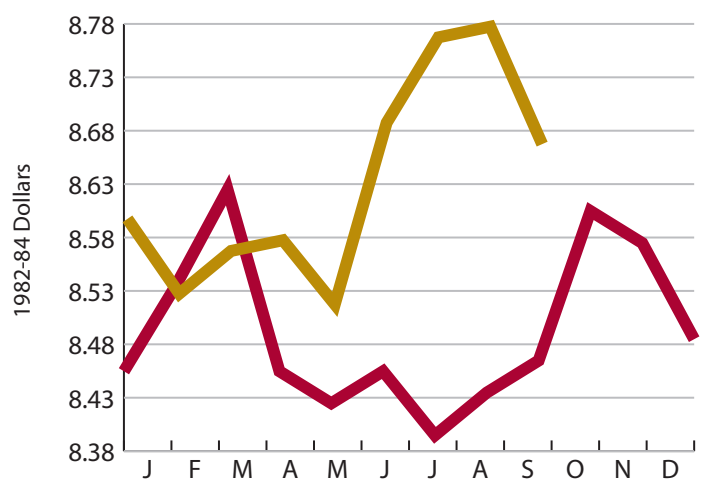
## Average Hourly Earnings



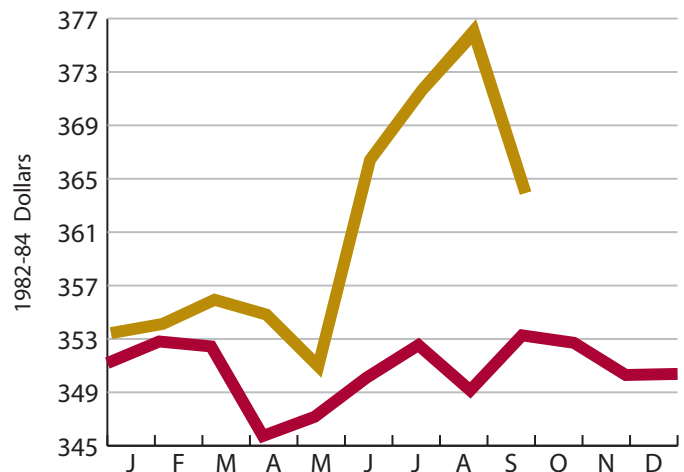
## Average Weekly Earnings



## Deflated Average Hourly Earnings



## Deflated Average Weekly Earnings



## BUSINESS INDICATORS

|           | Single Family Housing Permits |          | New Business Incorporations |          | New Vehicle Registrations |          |
|-----------|-------------------------------|----------|-----------------------------|----------|---------------------------|----------|
| 2006      | Unadjusted                    | Adjusted | Unadjusted                  | Adjusted | Unadjusted                | Adjusted |
| January   | 3,368                         | 4,014    | 1,715                       | 2,021    | 42,165                    | 47,133   |
| February  | 3,546                         | 4,070    | 1,762                       | 1,614    | 36,957                    | 47,266   |
| March     | 4,287                         | 3,852    | 2,185                       | 1,739    | 48,908                    | 45,411   |
| April     | 3,950                         | 3,503    | 1,452                       | 1,308    | 46,085                    | 43,346   |
| May       | 3,975                         | 3,487    | 1,891                       | 1,772    | 52,423                    | 46,932   |
| June      | 3,663                         | 3,103    | 1,807                       | 1,728    | 51,645                    | 44,575   |
| July      | 2,980                         | 2,882    | 1,607                       | 1,641    | 46,487                    | 43,470   |
| August    | 3,102                         | 2,846    | 1,555                       | 1,679    | 53,772                    | 47,036   |
| September | 2,511                         | 2,650    | 1,506                       | 1,547    | 45,852                    | 42,737   |
| October   | 2,694                         | 2,747    | 1,410                       | 1,547    | 45,579                    | 45,588   |
| November  | 2,444                         | 2,955    | 1,320                       | 1,601    | 37,088                    | 45,362   |
| December  | 2,033                         | 2,402    | 1,325                       | 1,375    | 35,388                    | 44,059   |
| 2007      |                               |          |                             |          |                           |          |
| January   | 2,350                         | 2,801    | 1,560                       | 1,839    | 41,967                    | 46,911   |
| February  | 2,588                         | 2,971    | 1,553                       | 1,423    | 33,096                    | 42,328   |
| March     | 3,082                         | 2,769    | 1,885                       | 1,500    | 45,232                    | 41,998   |
| April     | 2,936                         | 2,604    | 1,549                       | 1,396    | 46,993                    | 44,200   |
| May       | 3,156                         | 2,768    | 1,596                       | 1,496    | 55,429                    | 49,623   |
| June      | 3,057                         | 2,589    | 1,575                       | 1,506    | 49,747                    | 42,937   |
| July      | 2,751                         | 2,660    | 1,315                       | 1,343    | 44,414                    | 41,532   |
| August    | 2,491                         | 2,285    | 1,534                       | 1,656    | 47,082                    | 41,184   |
| September | 1,849                         | 1,951    | 1,114                       | 1,145    | 40,381                    | 37,637   |

## BUSINESS INDICATORS (CONTINUED)

|           | Taxable Retail Sales<br>(Millions of Dollars) |          | Deflated Taxable Retail Sales<br>(Millions of 1982-84 Dollars) |          |
|-----------|---|----------|--|----------|
| 2006      | Unadjusted                                    | Adjusted | Unadjusted   | Adjusted |
| January   | 7,182   | 8,415    | 3,702  | 4,314    |
| February  | 7,395   | 8,472    | 3,808  | 4,347    |
| March     | 8,677   | 8,570    | 4,443  | 4,388    |
| April     | 8,586   | 8,676    | 4,354  | 4,413    |
| May       | 8,638   | 8,667    | 4,358  | 4,386    |
| June      | 9,185   | 8,659    | 4,625  | 4,371    |
| July      | 8,284   | 8,363    | 4,159  | 4,206    |
| August    | 8,682   | 8,874    | 4,350  | 4,458    |
| September | 8,621   | 8,561    | 4,345  | 4,334    |
| October   | 8,495   | 8,469    | 4,312  | 4,308    |
| November  | 8,557   | 8,741    | 4,348  | 4,429    |
| December  | 10,554  | 8,427    | 5,352  | 4,243    |
| 2007      |   |          |  |          |
| January   | 7,714   | 9,038    | 3,905  | 4,550    |
| February  | 7,807   | 8,944    | 3,932  | 4,489    |
| March     | 8,895   | 8,785    | 4,434  | 4,379    |
| April     | 8,586   | 8,676    | 4,248  | 4,305    |
| May       | 9,045   | 9,075    | 4,441  | 4,470    |
| June      | 9,299   | 8,767    | 4,560  | 4,310    |
| July      | 8,633   | 8,715    | 4,238  | 4,286    |
| August    | 8,849   | 9,044    | 4,355  | 4,463    |
| September | 8,557   | 8,498    | 4,197  | 4,186    |

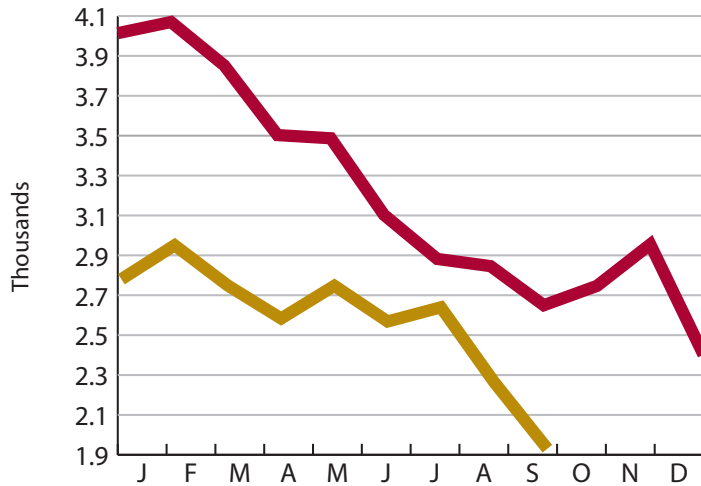
# BUSINESS INDICATORS

January 2006 - September 2007

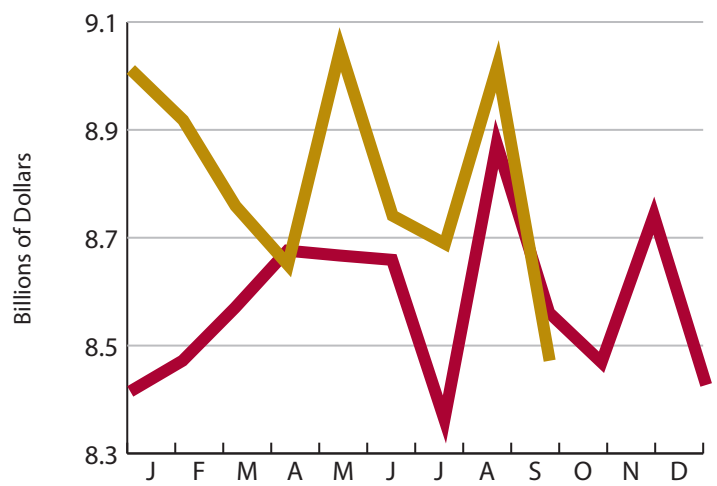
2006

2007

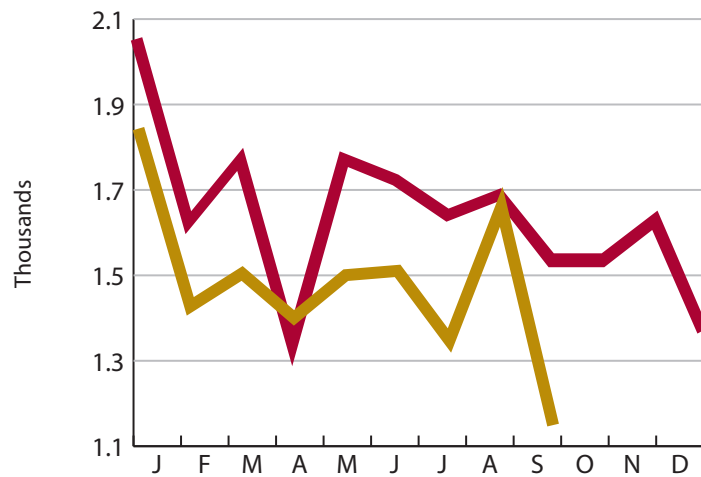
## Single Family Housing Permits



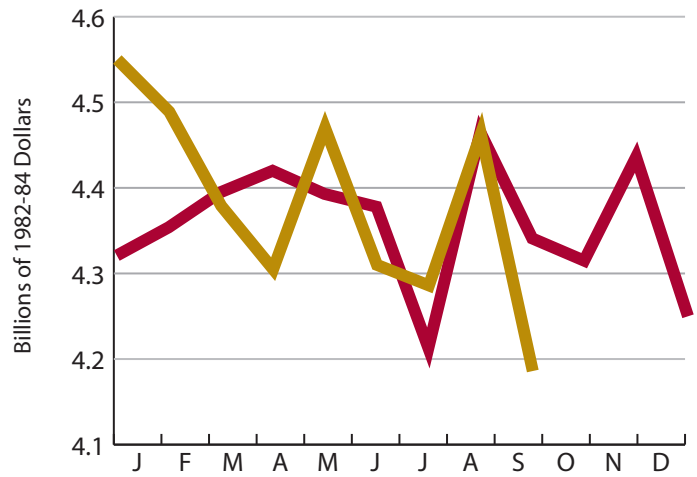
## Taxable Retail Sales



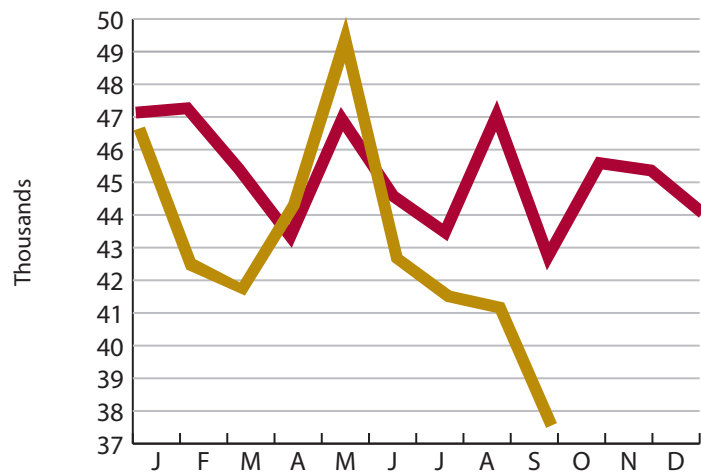
## New Business Incorporations



## Deflated Taxable Retail Sales



## New Vehicle Registrations



## DATA SUMMARY (SEASONALLY ADJUSTED DATA)

JULY 2007

|                                  |           |           |           | Percent & Direction of Change** |                       |
|----------------------------------|-----------|-----------|-----------|---------------------------------|-----------------------|
|                                  | July 2007 | June 2007 | July 2006 | June 2007 - July 2007           | July 2006 - July 2007 |
| EMPLOYMENT                       |           |           |           |                                 |                       |
| *Nonag Wage & Salary Emp (000)   | 3,786.4   | 3,785.2   | 3,727.1   | 0.0 (0)                         | 1.6 (+)               |
| *Manufacturing Employment (000)  | 289.0     | 287.4     | 290.9     | 0.6 (+)                         | -0.7 (-)              |
| *Total Unemployment Rate (%)     | 3.1       | 3.0       | 3.0       | (-)                             | (-)                   |
| UNEMPLOYMENT INSURANCE           |           |           |           |                                 |                       |
| Average Weekly Initial Claims    | 4,443     | 4,423     | 4,960     | 0.45 (0)                        | -10.4 (+)             |
| Insured Unemployment Rate (%)    | 0.80      | 0.89      | 0.96      | (+)                             | (+)                   |
| Final Payments                   | 3,390     | 2,637     | 2,776     | 28.6 (-)                        | 22.1 (-)              |
| MANUFACTURING PRODUCTION WORKERS |           |           |           |                                 |                       |
| *Average Weekly Hours            | 42.6      | 42.2      | 42.2      | 0.9 (+)                         | 0.9 (+)               |
| *Total Production Hours (000)    | 9,675     | 9,514     | 9,587     | 1.7 (+)                         | 0.9 (+)               |
| *Average Hourly Earnings (\$)    | 17.81     | 17.66     | 16.70     | 0.8 (+)                         | 6.6 (+)               |
| *Average Weekly Earnings (\$)    | 755.08    | 743.96    | 701.04    | 1.5 (+)                         | 7.7 (+)               |
| BUSINESS                         |           |           |           |                                 |                       |
| Single Family Housing Permits    | 2,660     | 2,589     | 2,882     | 2.7 (+)                         | -7.7 (-)              |
| New Business Incorporations      | 1,343     | 1,506     | 1,641     | -10.8 (-)                       | -18.2 (-)             |
| New Vehicle Registrations        | 41,532    | 42,937    | 43,470    | -3.3 (-)                        | -4.5 (-)              |
| Taxable Retail Sales (\$M)       | 8,715     | 8,767     | 8,363     | -0.6 (-)                        | 4.2 (+)               |

## DATA SUMMARY (SEASONALLY ADJUSTED DATA)

AUGUST 2007

|                                  |           |           |           | Percent & Direction of Change** |                       |
|----------------------------------|-----------|-----------|-----------|---------------------------------|-----------------------|
|                                  | Aug. 2007 | July 2007 | Aug. 2006 | July 2007 - Aug. 2007           | Aug. 2006 - Aug. 2007 |
| EMPLOYMENT                       |           |           |           |                                 |                       |
| *Nonag Wage & Salary Emp (000)   | 3,793.8   | 3,786.4   | 3,728.3   | 0.2 (0)                         | 1.8 (+)               |
| *Manufacturing Employment (000)  | 287.2     | 289.0     | 288.6     | -0.6 (-)                        | -0.49 (0)             |
| *Total Unemployment Rate (%)     | 3.1       | 3.1       | 3.1       | (0)                             | (0)                   |
| UNEMPLOYMENT INSURANCE           |           |           |           |                                 |                       |
| Average Weekly Initial Claims    | 4,581     | 4,443     | 5,180     | 3.1 (-)                         | -11.6 (+)             |
| Insured Unemployment Rate (%)    | 0.70      | 0.80      | 0.90      | (+)                             | (+)                   |
| Final Payments                   | 2,834     | 3,390     | 3,068     | -16.4 (+)                       | -7.6 (+)              |
| MANUFACTURING PRODUCTION WORKERS |           |           |           |                                 |                       |
| *Average Weekly Hours            | 42.8      | 42.6      | 41.3      | 0.47 (0)                        | 3.6 (+)               |
| *Total Production Hours (000)    | 9,630     | 9,675     | 9,313     | -0.47 (0)                       | 3.4 (+)               |
| *Average Hourly Earnings (\$)    | 17.79     | 17.81     | 16.80     | -0.1 (0)                        | 5.9 (+)               |
| *Average Weekly Earnings (\$)    | 762.81    | 755.08    | 694.98    | 1.0 (+)                         | 9.8 (+)               |
| BUSINESS                         |           |           |           |                                 |                       |
| Single Family Housing Permits    | 2,285     | 2,660     | 2,846     | -14.1 (-)                       | -19.7 (-)             |
| New Business Incorporations      | 1,656     | 1,343     | 1,679     | 23.3 (+)                        | -1.4 (-)              |
| New Vehicle Registrations        | 41,184    | 41,532    | 47,036    | -0.8 (-)                        | -12.4 (-)             |
| Taxable Retail Sales (\$M)       | 9,044     | 8,715     | 8,874     | 3.8 (+)                         | 1.9 (+)               |

# DATA SUMMARY (SEASONALLY ADJUSTED DATA)

SEPTEMBER 2007

|                                  | Sep. 2007 | Aug. 2007 | Sep. 2006 | Percent & Direction of Change** |                       |
|----------------------------------|-----------|-----------|-----------|---------------------------------|-----------------------|
|                                  |           |           |           | Aug. 2007 - Sep. 2007           | Sep. 2006 - Sep. 2007 |
| EMPLOYMENT                       |           |           |           |                                 |                       |
| *Nonag Wage & Salary Emp (000)   | 3,791.3   | 3,793.8   | 3,721.0   | -0.1 (0)                        | 1.9 (+)               |
| *Manufacturing Employment (000)  | 286.4     | 287.2     | 285.3     | -0.3 (0)                        | 0.4 (0)               |
| *Total Unemployment Rate (%)     | 2.9       | 3.1       | 3.1       | (+)                             | (+)                   |
| UNEMPLOYMENT INSURANCE           |           |           |           |                                 |                       |
| Average Weekly Initial Claims    | 4,214     | 4,581     | 4,937     | -8.0 (+)                        | -14.6 (+)             |
| Insured Unemployment Rate (%)    | 0.96      | 0.70      | 0.93      | (-)                             | (-)                   |
| Final Payments                   | 3,102     | 2,834     | 2,949     | 9.5 (-)                         | 5.2 (-)               |
| MANUFACTURING PRODUCTION WORKERS |           |           |           |                                 |                       |
| *Average Weekly Hours            | 41.7      | 42.8      | 41.4      | -2.6 (-)                        | 0.7 (+)               |
| *Total Production Hours (000)    | 9,374     | 9,630     | 9,253     | -2.7 (-)                        | 1.3 (+)               |
| *Average Hourly Earnings (\$)    | 17.59     | 17.79     | 16.75     | -1.1 (-)                        | 5.0 (+)               |
| *Average Weekly Earnings (\$)    | 738.41    | 762.81    | 698.07    | -3.2 (-)                        | 5.8 (+)               |
| BUSINESS                         |           |           |           |                                 |                       |
| Single Family Housing Permits    | 1,951     | 2,285     | 2,650     | -14.6 (-)                       | -26.4 (-)             |
| New Business Incorporations      | 1,145     | 1,656     | 1,547     | -30.9 (-)                       | -26.0 (-)             |
| New Vehicle Registrations        | 37,637    | 41,184    | 42,737    | -8.6 (-)                        | -11.9 (-)             |
| Taxable Retail Sales (\$M)       | 8,498     | 9,044     | 8,561     | -6.0 (-)                        | -0.7 (-)              |

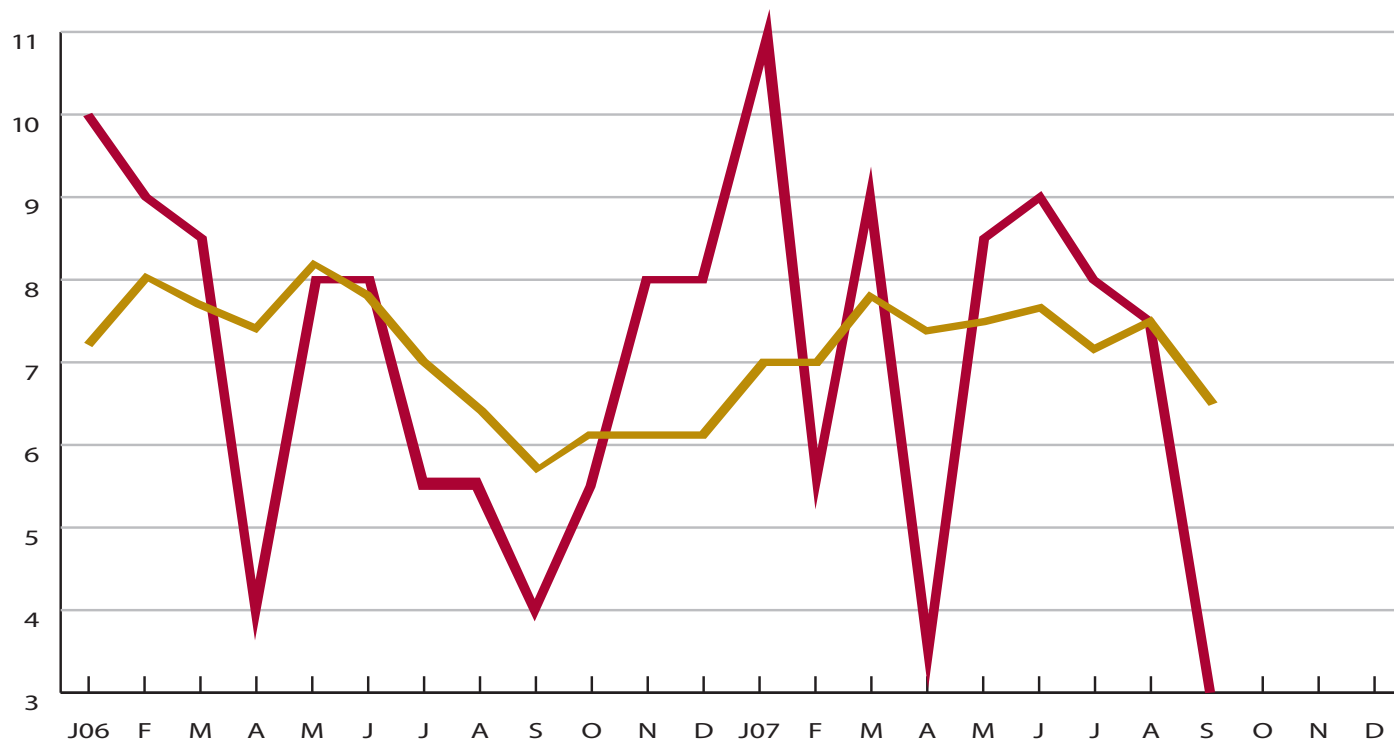
\* Revised to 1st Quarter 2006 benchmarks.

\*\* (+) Favorable, (-) Not Favorable, (0) Change between +/- 0.5%.

## NUMBER OF SERIES MOVING FAVORABLY

Plus One-Half the Number Unchanged

Monthly Total 6-Month Moving Average





# THE INFORMATION SECTOR\* IN VIRGINIA

James P. Wilson, Senior Economist

## **Editor's Note:**

Senior Economist James P. Wilson has prepared a fine, informative article on the important, high wage, and rapidly changing Information industry in Virginia for this issue's first feature article.

## **Establishments**

- ♦ The average employment per Information establishment is a little larger than the average for All Industries.
- ♦ With cable television's legal monopoly in many localities, it is not surprising that Cable and Other Subscription Programming is the largest (95 employees per establishment) industry group.
- ♦ Otherwise, there is not much variation in size, with most industry groups having 13-30 employees per establishment and only two industry groups that average in the single digits.
- ♦ Only three industry groups have double-digit percentage shares of establishments and employment. The largest of these in both categories, Wired Telecommunications Carriers, has over one-fifth of the establishments and over one-fourth of the employment.
- ♦ If Newspapers were shown separately from the rest of its industry group, its average employment per establishment would be almost double that of the Information sector (45 vs. 24) and the rest of the group would be about the same size as the overall average—15 vs. 17.



\*—private only. Unless otherwise noted, the source for all data is Virginia Employment Commission, Quarterly Census of Employment and Wages (QCEW, formerly ES-202).



| NAICS Code and Industry Group |  | 2006 Average Establishments | Percent of Total | 2006 Average Employment | Percent of Total | Employment per Establishment |
|-------------------------------|--|-----------------------------|------------------|-------------------------|------------------|------------------------------|
| 5111                          | Newspaper, Book, & Directory Publishers  | 601                         | 15.4%            | 15,428                  | 16.8%            | 26                           |
| 5112                          | Software Publishers                      | 188                         | 4.8%             | 4,986                   | 5.4%             | 27                           |
| 5121                          | Motion Picture and Video Industries      | 359                         | 9.2%             | 4,811                   | 5.2%             | 13                           |
| 5122                          | Sound Recording Industries               | 54                          | 1.4%             | 134                     | 0.1%             | 2                            |
| 5151                          | Radio and Television Broadcasting        | 221                         | 5.7%             | 6,621                   | 7.2%             | 30                           |
| 5152                          | Cable and Other Subscription Programming | 34                          | 0.9%             | 3,222                   | 3.5%             | 95                           |
| 5161                          | Internet Publishing and Broadcasting     | 112                         | 2.9%             | 1,660                   | 1.8%             | 15                           |
| 5171                          | Wired Telecommunications Carriers        | 851                         | 21.9%            | 24,697                  | 26.9%            | 29                           |
| 5172                          | Wireless Telecommunications Carriers     | 263                         | 6.8%             | 5,320                   | 5.8%             | 20                           |
| 5173                          | Telecommunications Resellers             | 116                         | 3.0%             | 1,653                   | 1.8%             | 14                           |
| 5174                          | Satellite Telecommunications             | 26                          | 0.7%             | 347                     | 0.4%             | 13                           |
| 5175                          | Cable and Other Program Distribution     | 121                         | 3.1%             | 2,523                   | 2.7%             | 21                           |
| 5179                          | Other Telecommunications                 | 18                          | 0.5%             | 399                     | 0.4%             | 22                           |
| 5181                          | ISPs and Web Search Portals              | 281                         | 7.2%             | 8,249                   | 9.0%             | 29                           |
| 5182                          | Data Processing and Related Services     | 517                         | 13.3%            | 10,984                  | 12.0%            | 21                           |
| 5191                          | Other Information Services               | 132                         | 3.4%             | 743                     | 0.8%             | 6                            |
| <b>51</b>                     | <b>Information Total</b>                 | <b>3,894</b>                |                  | <b>91,777</b>           |                  | <b>24</b>                    |
|                               | <b>All Industries</b>                    | <b>214,996</b>              |                  | <b>3,636,596</b>        |                  | <b>17</b>                    |



## Employment

- ♦ Wired Telecommunications Carriers is the largest industry group, but like most of the other industry groups has declined significantly over the last five years (see tables on page 23) and lost the most jobs during that time period as the legal environment moved from monopoly to competition allowing jobs to be created and eliminated.
- ♦ The decline of the old print media (Newspaper, Book, and Directory Publishers) and the boom/bust of the new electronic media (ISPs and Web Search Portals) can be seen in the employment changes in the five-, ten-, and fifteen-year periods shown in the bottom table on page 23. Newspapers represent a decreasing share of its industry group, falling from 73.7 percent of employment in 1991 to 62.0 percent in 2006.
- ♦ Cable and Other Subscription Programming is the only industry group other than the small Satellite Telecommunications group to consistently grow (see tables on page 23).
- ♦ Five of the industry groups had triple-digit growth over the last 15 years and four of these had triple-digit growth over the last ten years. However, three of the five show employment decreases in the last five years, representing over 25 percent of the Information sector decline.
- ♦ As cell phones gained widespread use in the last 15 years, the ratio of employment for Wired Telecommunications Carriers to that of Wireless Telecommunications Carriers fell from almost 30-to-one to under five-to-one.
- ♦ In the last 15 years, Information grew 40 percent slower than All Industries, decreasing Information's share of employment from 2.8 percent to 2.5 percent. Reflecting the ups and downs of this sector, Information reached a high of 3.5 percent of total employment in 2001.
- ♦ Information has accounted for less than 1 percent of the new jobs in the last ten years and declined significantly in the last five years as growth for All Industries exceeded 1 percent per year.
- ♦ Compared to the nation, Virginia's Information sector grew 60 percent faster (22.7 percent vs. 14.1 percent) in the last 15 years, twice as fast in the last ten years (7.9 percent vs. 3.9 percent), but declined 44 percent faster in the last five years (-22.8 percent vs. -15.8 percent).\*



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\* Source: Current Employment Statistics of U.S. Department of Labor, Bureau of Labor Statistics.



## Employment

|      | NAICS Code and Industry Group            | 1991             | 1996             | 2001             | 2006             |
|------|--|------------------|------------------|------------------|------------------|
| 5111 | Newspaper, Book, & Directory Publishers  | 16,371           | 17,474           | 17,410           | 15,428           |
| 5112 | Software Publishers                      | 4,077            | 6,871            | 9,840            | 4,986            |
| 5121 | Motion Picture and Video Industries      | 3,802            | 4,722            | 5,068            | 4,811            |
| 5122 | Sound Recording Industries               | 359              | 171              | 153              | 134              |
| 5151 | Radio and Television Broadcasting        | 6,275            | 6,681            | 6,532            | 6,621            |
| 5152 | Cable and Other Subscription Programming | 1,045            | 1,464            | 2,467            | 3,222            |
| 5161 | Internet Publishing and Broadcasting     | 644              | 772              | 2,254            | 1,660            |
| 5171 | Wired Telecommunications Carriers        | 28,312           | 27,031           | 33,349           | 24,697           |
| 5172 | Wireless Telecommunications Carriers     | 977              | 2,329            | 5,881            | 5,320            |
| 5173 | Telecommunications Resellers             | 1,877            | 3,521            | 6,025            | 1,653            |
| 5174 | Satellite Telecommunications             | 78               | 191              | 267              | 347              |
| 5175 | Cable and Other Program Distribution     | 2,502            | 2,786            | 2,645            | 2,523            |
| 5179 | Other Telecommunications                 | D                | D                | 508              | 399              |
| 5181 | ISPs and Web Search Portals              | 887              | 3,654            | 14,452           | 8,249            |
| 5182 | Data Processing and Related Services     | 9,223            | 12,430           | 12,245           | 10,984           |
| 5191 | Other Information Services               | 446              | 533              | 465              | 743              |
|      | <b>Information Total</b>                 | <b>77,180</b>    | <b>90,770</b>    | <b>119,560</b>   | <b>91,777</b>    |
|      | <b>All Industries</b>                    | <b>2,762,991</b> | <b>3,076,999</b> | <b>3,438,396</b> | <b>3,636,596</b> |

## Employment Change

|      | NAICS Code and Industry Group            | 1991-2006 Change |              | 1996-2006 Change |              | 2001-2006 Change |               |
|------|--|------------------|--------------|------------------|--------------|------------------|---------------|
|      |  | Number           | Percent      | Number           | Percent      | Number           | Percent       |
| 5111 | Newspaper, Book, & Directory Publishers  | -943             | -5.8%        | -2,046           | -11.7%       | -1,982           | -11.4%        |
| 5112 | Software Publishers                      | 909              | 22.3%        | -1,885           | -27.4%       | -4,854           | -49.3%        |
| 5121 | Motion Picture and Video Industries      | 1,009            | 26.5%        | 89               | 1.9%         | -257             | -5.1%         |
| 5122 | Sound Recording Industries               | -225             | -62.7%       | -37              | -21.6%       | -19              | -12.4%        |
| 5151 | Radio and Television Broadcasting        | 346              | 5.5%         | -60              | -0.9%        | 89               | 1.4%          |
| 5152 | Cable and Other Subscription Programming | 2,177            | 208.3%       | 1,758            | 120.1%       | 755              | 30.6%         |
| 5161 | Internet Publishing and Broadcasting     | 1,016            | 157.8%       | 888              | 115.0%       | -594             | -26.4%        |
| 5171 | Wired Telecommunications Carriers        | -3,615           | -12.8%       | -2,334           | -8.6%        | -8,652           | -25.9%        |
| 5172 | Wireless Telecommunications Carriers     | 4,343            | 444.5%       | 2,991            | 128.4%       | -561             | -9.5%         |
| 5173 | Telecommunications Resellers             | -224             | -11.9%       | -1,868           | -53.1%       | -4,372           | -72.6%        |
| 5174 | Satellite Telecommunications             | 269              | 344.9%       | 156              | 81.7%        | 80               | 30.0%         |
| 5175 | Cable and Other Program Distribution     | 21               | 0.8%         | -263             | -9.4%        | -122             | -4.6%         |
| 5179 | Other Telecommunications                 | D                | D            | D                | D            | -109             | -21.5%        |
| 5181 | ISPs and Web Search Portals              | 7,362            | 830.0%       | 4,595            | 125.8%       | -6,203           | -42.9%        |
| 5182 | Data Processing and Related Services     | 1,761            | 19.1%        | -1,446           | -11.6%       | -1,261           | -10.3%        |
| 5191 | Other Information Services               | 297              | 66.6%        | 210              | 39.4%        | 278              | 59.8%         |
|      | <b>Information Total</b>                 | <b>14,597</b>    | <b>18.9%</b> | <b>1,007</b>     | <b>1.1%</b>  | <b>-27,783</b>   | <b>-23.2%</b> |
|      | <b>All Industries</b>                    | <b>873,605</b>   | <b>31.6%</b> | <b>559,597</b>   | <b>18.2%</b> | <b>198,200</b>   | <b>5.8%</b>   |

"D" indicates disclosure suppression. These data have been included only in subtotals and total.

## Wages

- ♦ Internet Service Providers (ISPs) and Web Search Portals is the highest-paying industry group at almost three times the All Industries average and has the fourth-highest number of employees.
- ♦ The industry group with the largest employment, Wired Telecommunications Carriers, has the fourth-highest wage, which is 29 percent higher than the Information sector average.
- ♦ The lowest-paying industry group, Motion Picture and Video Industries, pays about 60 percent less than the Information average and is the only one whose wage is below the All Industries average. It is the eighth-largest employing industry group.
- ♦ Three of the 16 industry groups, with about 15 percent of Information employees, pay average weekly wages at least 50 percent above the Information average.
- ♦ Nine of the 16 industry groups, with almost 60 percent of Information employees, pay at least \$1,000 per week.
- ♦ With wage growth one-third faster than the All Industries average, Information has increased its wage premium in the last 15 years from 41.9 percent to 71.0 percent. (See table at top of page 25.)
- ♦ ISPs and Web Search Portals ranks at the bottom in wage growth for the last five years because that industry paid billions in stock options in 2001. This industry group's wage growth would be first if the last 15 years are used. (See table at bottom of page 25.)
- ♦ Eleven of the 16 industry groups have wage growth in the last 15 years faster than the All Industries average of 4.2 percent.
- ♦ Total wages exceed \$6.9 billion per week. Although Information has only 2.5 percent of employment, its very high pay produces about 4.3 percent of total wages.

|      | NAICS Code and Industry Group            | 2006 Average Employment | 2006 Average Weekly Wage | 2006 Average Annual Wage | Rank |
|------|--|-------------------------|--------------------------|--------------------------|------|
| 5181 | ISPs and Web Search Portals              | 8,249                   | \$2,460                  | \$127,920                | 1    |
| 5174 | Satellite Telecommunications             | 347                     | \$2,403                  | \$124,956                | 2    |
| 5112 | Software Publishers                      | 4,986                   | \$2,176                  | \$113,152                | 3    |
| 5171 | Wired Telecommunications Carriers        | 24,697                  | \$1,870                  | \$97,240                 | 4    |
| 5173 | Telecommunications Resellers             | 1,653                   | \$1,506                  | \$78,312                 | 5    |
| 5161 | Internet Publishing and Broadcasting     | 1,660                   | \$1,494                  | \$77,688                 | 6    |
| 5179 | Other Telecommunications                 | 399                     | \$1,344                  | \$69,888                 | 7    |
| 5182 | Data Processing and Related Services     | 10,984                  | \$1,332                  | \$69,264                 | 8    |
| 5191 | Other Information Services               | 743                     | \$1,071                  | \$55,692                 | 9    |
| 5152 | Cable and Other Subscription Programming | 3,222                   | \$995                    | \$51,740                 | 10   |
| 5122 | Sound Recording Industries               | 134                     | \$985                    | \$51,220                 | 11   |
| 5151 | Radio and Television Broadcasting        | 6,621                   | \$972                    | \$50,544                 | 12   |
| 5172 | Wireless Telecommunications Carriers     | 5,320                   | \$948                    | \$49,296                 | 13   |
| 5111 | Newspaper, Book, & Directory Publishers  | 15,428                  | \$914                    | \$47,528                 | 14   |
| 5175 | Cable and Other Program Distribution     | 2,523                   | \$879                    | \$45,708                 | 15   |
| 5121 | Motion Picture and Video Industries      | 4,811                   | \$549                    | \$28,548                 | 16   |
|      | <b>Information Total</b>                 | <b>91,777</b>           | <b>\$1,448</b>           | <b>\$75,296</b>          |      |
|      | <b>All Industries</b>                    | <b>3,636,596</b>        | <b>\$847</b>             | <b>\$44,044</b>          |      |

## Wages

| NAICS Code and Sectors |  | Average Weekly Wage |                | 1991-2006 Average Annual Growth Rate | Rank     |
|------------------------|--|---------------------|----------------|--------------------------------------|----------|
|                        |  | 1991                | 2006           |                                      |          |
| 52                     | Finance and Insurance                    | \$549               | \$1,322        | 6.0%                                 | 1        |
| 55                     | Management of Companies and Ent.         | \$756               | \$1,746        | 5.7%                                 | 2        |
| <b>51</b>              | <b>Information</b>                       | <b>\$650</b>        | <b>\$1,448</b> | <b>5.5%</b>                          | <b>3</b> |
| 22                     | Utilities                                | \$750               | \$1,628        | 5.3%                                 | 4        |
| 54                     | Professional and Technical Services      | \$715               | \$1,504        | 5.1%                                 | 5        |
| 53                     | Real Estate and Rental and Leasing       | \$394               | \$814          | 5.0%                                 | 6        |
| 42                     | Wholesale Trade                          | \$616               | \$1,172        | 4.4%                                 | 7        |
| 81                     | Other Services, Ex. Public Admin.        | \$340               | \$626          | 4.2%                                 | 8        |
| 23                     | Construction                             | \$448               | \$811          | 4.0%                                 | 9        |
| 56                     | Administrative and Waste Services        | \$308               | \$556          | 4.0%                                 | 10       |
| 31-33                  | Manufacturing                            | \$500               | \$874          | 3.8%                                 | 11       |
| 61                     | Educational Services                     | \$393               | \$684          | 3.8%                                 | 12       |
| 11                     | Agriculture, Forestry, Fishing & Hunting | \$283               | \$485          | 3.7%                                 | 13       |
| 92                     | Total Government                         | \$526               | \$878          | 3.5%                                 | 14       |
| 62                     | Health Care and Social Assistance        | \$455               | \$752          | 3.4%                                 | 15       |
| 71                     | Arts, Entertainment, and Recreation      | \$259               | \$425          | 3.4%                                 | 16       |
| 72                     | Accommodation and Food Services          | \$177               | \$289          | 3.3%                                 | 17       |
| 21                     | Mining                                   | \$643               | \$1,037        | 3.2%                                 | 18       |
| 44-45                  | Retail Trade                             | \$292               | \$470          | 3.2%                                 | 19       |
| 48-49                  | Transportation and Warehousing           | \$491               | \$766          | 3.0%                                 | 20       |
|                        | <b>All Industries</b>                    | <b>\$458</b>        | <b>\$847</b>   | <b>4.2%</b>                          |          |

## Wages and Growth Rate

|           | NAICS Code and Industry Group        | Average Weekly Wage |              |                |                | Average Annual Growth Rate |             |              | Rank* |
|-----------|--------------------------------------|---------------------|--------------|----------------|----------------|----------------------------|-------------|--------------|-------|
|           |                                      | 1991                | 1996         | 2001           | 2006           | 1991-2006                  | 1996-2006   | 2001-2006    |       |
| 5171      | Wired Telecommunications Carriers    | \$792               | \$1,090      | \$1,342        | \$1,870        | 5.9%                       | 5.5%        | 6.9%         | 1     |
| 5174      | Satellite Telecommunications         | \$736               | \$1,263      | \$1,770        | \$2,403        | 8.2%                       | 6.6%        | 6.3%         | 2     |
| 5151      | Radio and Television Broadcasting    | \$442               | \$554        | \$745          | \$972          | 5.4%                       | 5.8%        | 5.5%         | 3     |
| 5121      | Motion Picture and Video Industries  | \$306               | \$396        | \$441          | \$549          | 4.0%                       | 3.3%        | 4.5%         | 4     |
| 5161      | Internet Publishing and Broadcasting | \$591               | \$858        | \$1,253        | \$1,494        | 6.4%                       | 5.7%        | 3.6%         | 5     |
| 5112      | Software Publishers                  | \$912               | \$1,265      | \$1,829        | \$2,176        | 6.0%                       | 5.6%        | 3.5%         | 6     |
| 5191      | Other Information Services           | \$405               | \$600        | \$919          | \$1,071        | 6.7%                       | 6.0%        | 3.1%         | 7     |
| 5152      | Cable and Other Subscription Prog.   | \$457               | \$686        | \$854          | \$995          | 5.3%                       | 3.8%        | 3.1%         | 8     |
| 5182      | Data Processing and Related Services | \$678               | \$884        | \$1,175        | \$1,332        | 4.6%                       | 4.2%        | 2.5%         | 9     |
| 5111      | Newspaper, Book, & Directory Pub.    | \$518               | \$626        | \$824          | \$914          | 3.9%                       | 3.9%        | 2.1%         | 10    |
| 5175      | Cable and Other Program Distribution | \$498               | \$538        | \$793          | \$879          | 3.9%                       | 5.0%        | 2.1%         | 11    |
| 5173      | Telecommunications Resellers         | \$689               | \$948        | \$1,403        | \$1,506        | 5.4%                       | 4.7%        | 1.4%         | 12    |
| 5122      | Sound Recording Industries           | \$396               | \$612        | \$941          | \$985          | 6.3%                       | 4.9%        | 0.9%         | 13    |
| 5179      | Other Telecommunications             | D                   | D            | \$1,307        | \$1,344        | D                          | D           | 0.6%         | 14    |
| 5172      | Wireless Telecommunications Carriers | \$690               | \$862        | \$964          | \$948          | 2.1%                       | 1.0%        | -0.3%        | 15    |
| 5181      | ISPs and Web Search Portals          | \$666               | \$2,025      | \$3,779        | \$2,460        | 9.1%                       | 2.0%        | -8.2%        | 16    |
| <b>51</b> | <b>Information Total</b>             | <b>\$650</b>        | <b>\$908</b> | <b>\$1,473</b> | <b>\$1,448</b> | <b>5.5%</b>                | <b>4.8%</b> | <b>-0.3%</b> |       |
|           | <b>All Industries</b>                | <b>\$458</b>        | <b>\$538</b> | <b>\$706</b>   | <b>\$847</b>   | <b>4.2%</b>                | <b>4.6%</b> | <b>3.7%</b>  |       |

"D" indicates disclosure suppression. These data have been included only in subtotals and total.

\*Rank based on 2001-2006 average annual growth rate.

## Geographic Distribution of Employment and Wages

- Fairfax County's Information employment, which exceeds 29,000, is over 31 percent of the state total and is within a few hundred of the total for the next six localities (Loudoun, Arlington, and Henrico counties and Virginia Beach, Chesapeake, and Richmond cities).
- Over 70 percent of the employment is in the ten localities with at least 2,000 employees. Fairfax and Loudoun counties alone account for over 40 percent of total employment. (This data does not reflect Time-Warner's transfer of its AOL advertising staff to New York City and layoff of 750 from the internet service provider division.)
- Although data for 20 percent of the localities is non-disclosable, these localities have only 2.5 percent of Information employment. Three areas (Grayson and King and Queen counties, and Poquoson city) have zero Information employment.

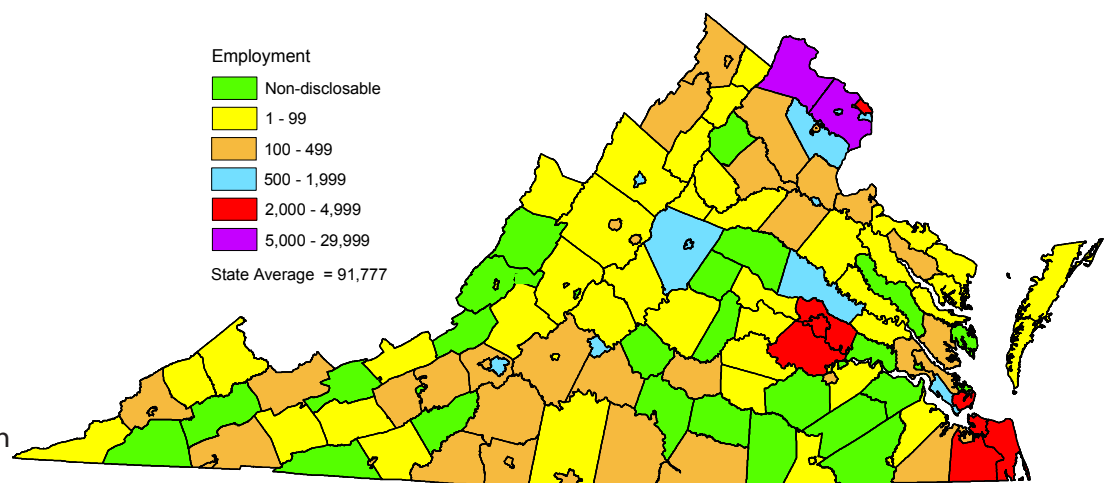
- Information employment is concentrated in the metropolitan areas, where one would expect to find most of the employment for newspapers, television and radio broadcasting, and cable television.

- One-third of the localities have less than 100 Information employees.

- The four localities with the highest proportion of Information employment relative to total employment include the two areas with the highest number of employees (Fairfax and Loudoun counties) and two rural areas (Highland and Richmond counties) with less than 200 Information employees combined. These two rural counties have a high percentage of their employees in the Information sector because their total employment is so low—565 in Highland County, 2,833 in Richmond County.

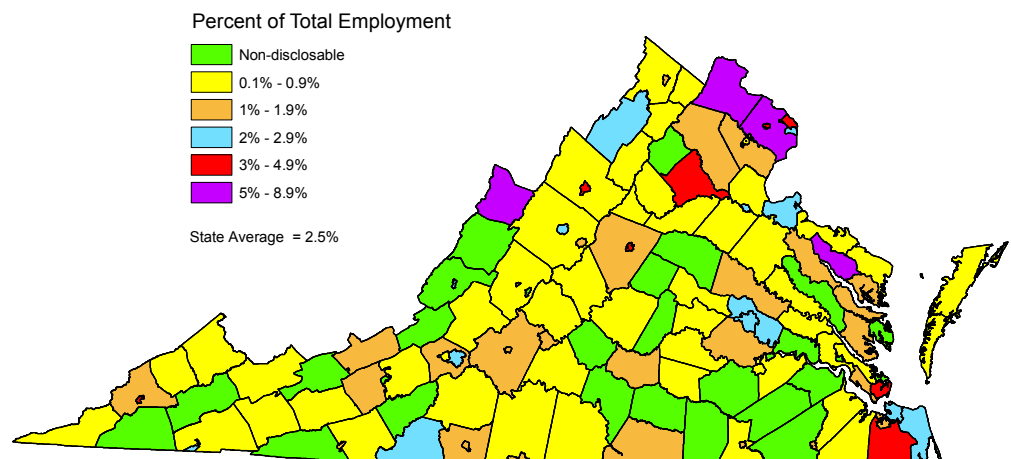
- Fifty areas have less than one percent of their employment in the Information sector. (This does not include the areas with zero or non-disclosable employment.)

2006 Average Employment in the Information Sector



Source: Virginia Employment Commission, November 2007

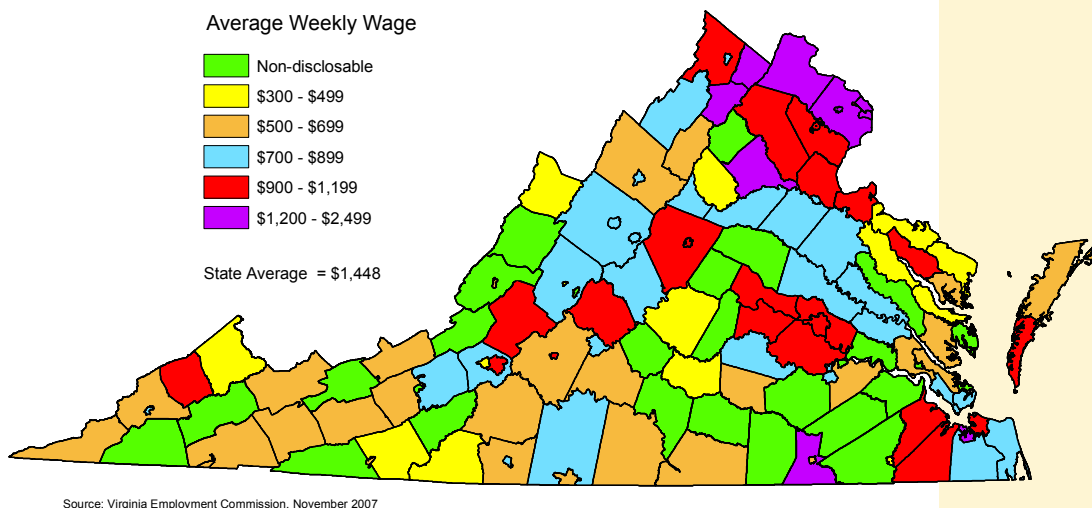
2006 Percent of Total Employment in the Information Sector



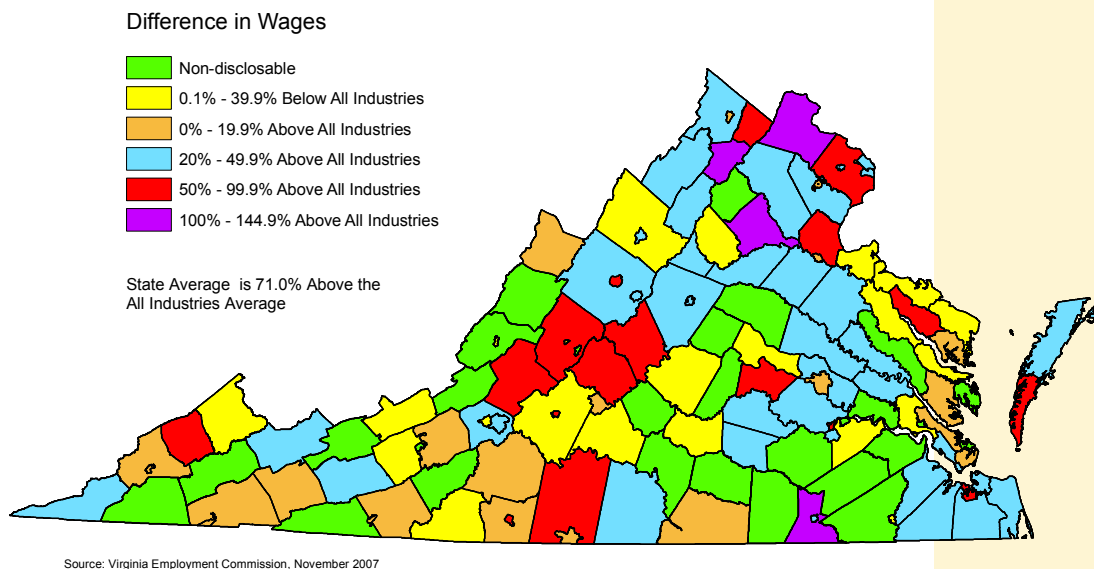
Source: Virginia Employment Commission, November 2007

- ♦ Four localities (Loudoun, Fairfax, Arlington, and Warren counties) have average weekly wages in Information that exceed the state Information average. All are in the Northern Virginia Metropolitan Statistical Area.
- ♦ In about ten percent of the localities the average weekly wage for Information is less than \$500 or about two-thirds less than the statewide Information sector wage. These areas are mostly rural counties and small cities.
- ♦ The Information wage is more than the area's All Industries wage in all but 22 localities. In four localities (Warren County, Loudoun County, Greenville County, and Culpeper County) Information wages are more than double the All Industries average.
- ♦ The dominance of the high-wage and high-employment Information areas can be seen in the following: only 8 areas have wages at least 71 percent higher than their respective All Industries average wage, but the state average Information wage exceeds the state All Industries average wage by 71 percent.
- ♦ The Information wage in six localities is at least 25 percent below the All Industries wage in their respective areas.
- ♦ Warren County and Salem city have, respectively, the highest and lowest Information wage relative to the All Industries wage in their locality.

2006 Average Weekly Wage in the Information Sector



2006 Average Weekly Wage in the Information Sector Compared to All Industries







# TRENDS IN DEFENSE EMPLOYMENT—1996-2006

James P. Wilson, Senior Economist

## Editor's Note:

We were not able to provide "Trends in Defense Employment—1996 - 2006" in the Second Quarter *Virginia Economic Indicators*, as we normally do, because the material had not been released by its source, the U.S. Department of Defense. That material has since become available, so we are publishing "Trends in Defense Employment—1996 - 2006" in this Third Quarter issue as the second feature article.



Virginia continues as one of the leading states in total Department of Defense (DoD) employment<sup>1</sup>. In federal Fiscal Year (FY) 2006, Virginia employed 11.7 percent of all military and civilian DoD employees in the nation, surpassing number two California at 11.4 percent. Virginia employed the largest percentage of civilian personnel, 12.7 percent, ahead of California's 8.7 percent. With the inclusion of military personnel afloat, Virginia employed 11.1 percent of all military DoD employees, ranking it second behind California, but ahead of Texas and North Carolina. (See Tables 1-3 below.)

## Top Ten States for Defense Employment Federal Fiscal Year 2006

Table 1  
Total Defense Employment

|                |       |
|----------------|-------|
| Virginia       | 11.7% |
| California     | 11.4% |
| Texas          | 8.9%  |
| North Carolina | 6.7%  |
| Georgia        | 5.7%  |
| Florida        | 4.7%  |
| Washington     | 4.1%  |
| Hawaii         | 3.5%  |
| Maryland       | 3.4%  |
| Kentucky       | 2.7%  |
| Top 10 Total   | 62.8% |

Table 2  
Civilian Defense Employment

|              |       |
|--------------|-------|
| Virginia     | 12.7% |
| California   | 8.7%  |
| Texas        | 6.5%  |
| Georgia      | 5.1%  |
| Maryland     | 4.8%  |
| Florida      | 4.1%  |
| Pennsylvania | 3.9%  |
| Washington   | 3.8%  |
| Alabama      | 3.5%  |
| Ohio         | 3.4%  |
| Top 10 Total | 56.5% |

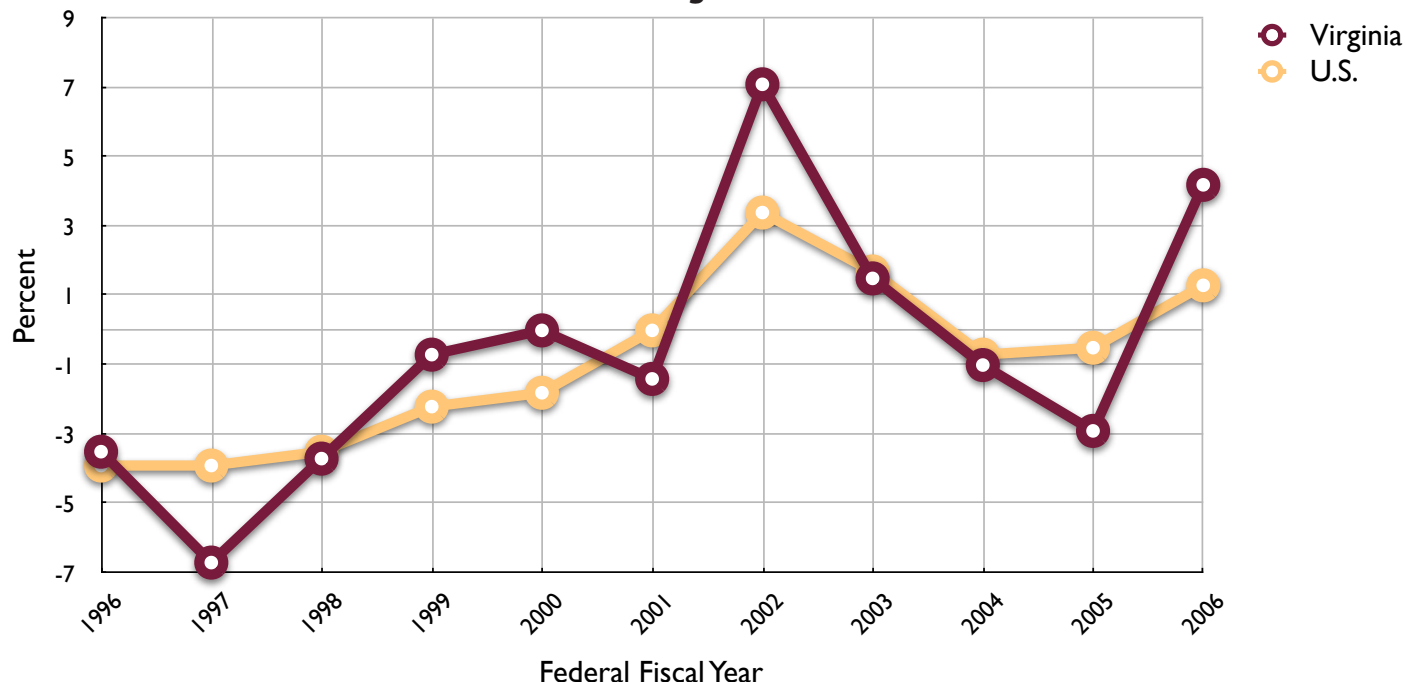
Table 3  
Military Employment

|                |       |
|----------------|-------|
| California     | 12.9% |
| Virginia       | 11.1% |
| Texas          | 10.3% |
| North Carolina | 8.9%  |
| Georgia        | 6.0%  |
| Florida        | 5.0%  |
| Washington     | 4.3%  |
| Hawaii         | 3.9%  |
| Kentucky       | 3.4%  |
| South Carolina | 3.3%  |
| Top 10 Total   | 69.1% |

Like the nation, total DoD employment in Virginia had risen as a result of the war in Iraq and Afghanistan. Both Virginia and national DoD employment rose in FY 2006 (See Figure 1), for the first time since FY 2003. At 4.2 percent, Virginia's increase was about three times faster than the national rate of 1.3 percent. Over 30 percent of the net national increase occurred in Virginia. The Navy experienced a large increase, but the Army's decline offset the Air Force's increase. It is important to note that these are the normal ups and downs of defense employment and not part of the Base Realignment and Closure Commission (BRAC) process, whose changes will not begin until 2009.

### Change in DoD Employment—Virginia vs. U.S.

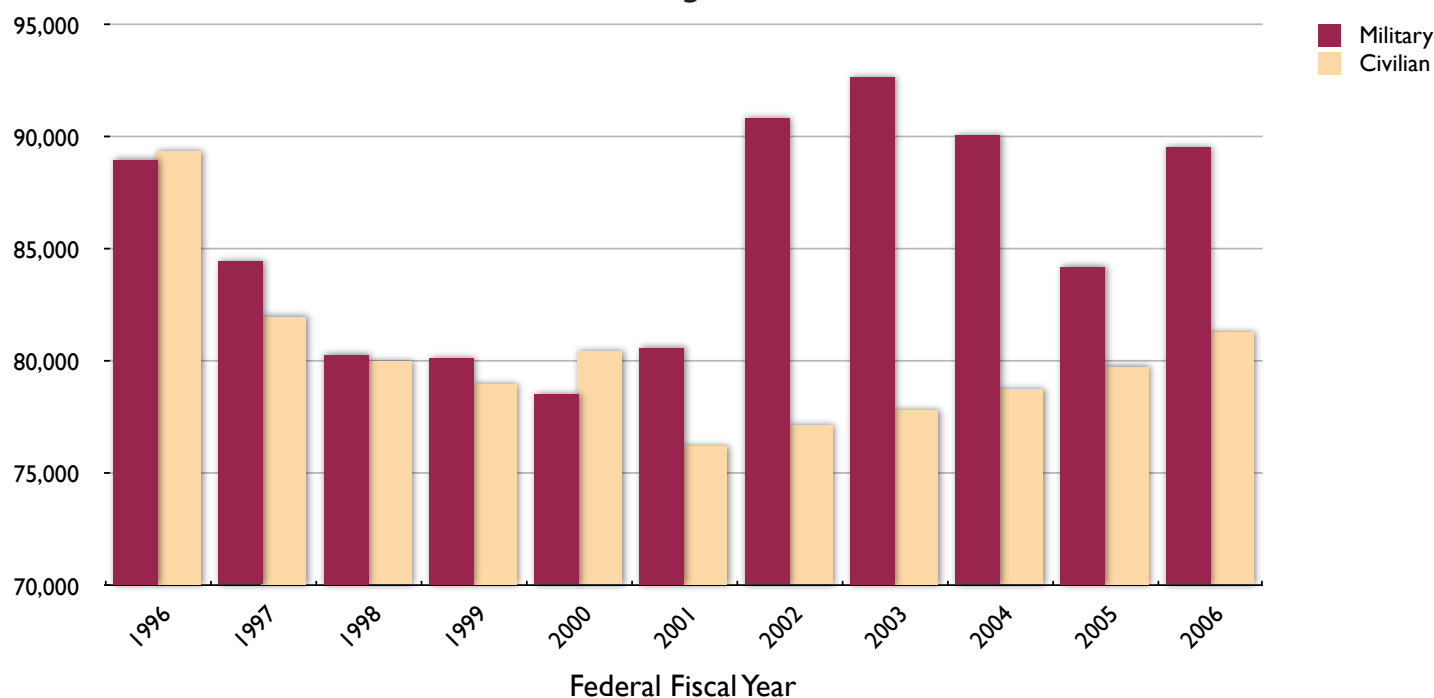
Figure 1



In FY 2006, both DoD civilian and military employment increased in Virginia (See Figure 2). The 2.0 percent increase in FY 2006 DoD civilian employment was the fifth straight increase, pushing it above the FY 2000 level, but it is still well below the FY 1996 level. DoD military employment increased significantly; however, it was less than last year's decline and the level is 3,000 less than the FY 2003 peak.

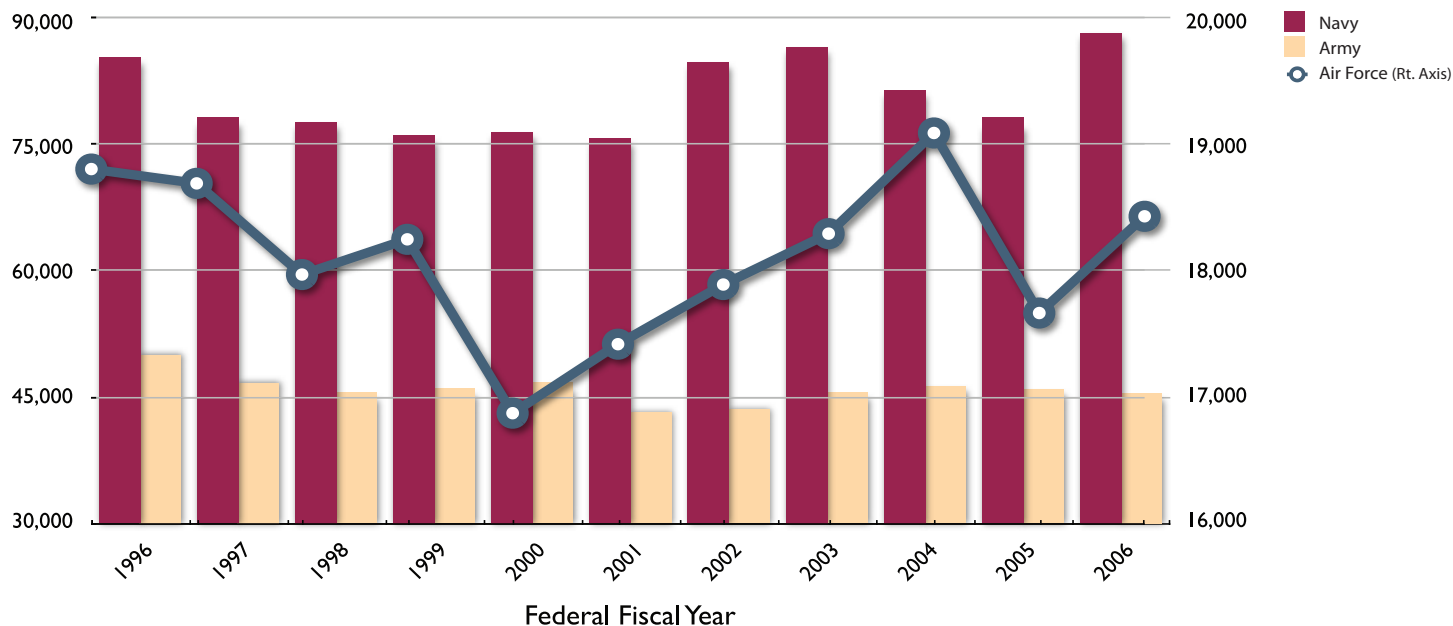
### Military vs. Civilian Employment in Virginia

Figure 2



The Navy is the largest service branch in Virginia, accounting for just over half of total DoD employment (See Figure 3). Excluding the shipboard personnel, Navy employment increased 8.3 percent in FY 2006, with half the gain occurring in Norfolk. Navy employment is essentially the same as its FY 2003 level. Army employment accounts for more than one-fourth of total DoD employment. While Army employment declined over the FY 1996-2006 period, the path has been uneven. In FY 2006, Army employment fell 1.7 percent and it remains below FY 1996's level. Air Force employment accounts for about 11 percent of total DoD employment. All but a few hundred of the Air Force employment is in Hampton Roads and Northern Virginia, with over 55 percent at Langley AFB. Air Force employment rose 4.3 percent in FY 2006, but is below its peak level of FY 2004.

**DoD Employment in Virginia by Service Branch**  
**Figure 3**



Analysis of Hampton Roads' employment is difficult given that the "Other" location increased by 19,000, while there were decreases of 10,000, 5,000, and 3,600, respectively, in Portsmouth, Virginia Beach, and Yorktown naval employment. However, the combined areas of Hampton Roads and Northern Virginia still account for about 75 percent of Virginia's total DoD employment. Northern Virginia's net loss of more than 600 was the third straight decline and its share of employment has decreased to 35.6 percent from its peak of 45.6 percent in FY 1996. (Table 4 on page 31 shows Department of Defense Military and Civilian Employment by Service Branch, Region, and Locality/Installation.)

In the Hampton Roads area, the Navy is the predominant employer, with the largest concentration of naval employment in Norfolk and Virginia Beach, which together account for over 90 percent of naval employment. Army employment fell by 700, while Air Force employment was unchanged. In Northern Virginia, Army employment fell under 39 percent of the area's DoD employment, while decreases in the Navy were not enough to change its share to just under 27 percent. Over 95 percent of Northern Virginia's Navy employment is located in Quantico and Arlington, while 98 percent of Army employment is spread among Alexandria, Arlington, Fort Belvoir, and Fort Myer. DoD employment in Northern Virginia fell 1.0 percent in FY 2006, with a large decrease (across all services) in Alexandria being offset by small increases at Arlington, Quantico, Falls Church, and Rosslyn. The Richmond area's employment increased by almost 900 or 7.7 percent. About 95 percent of that increase was at Fort Lee, mainly in Army military personnel.

<sup>1</sup>As reported by the DoD Washington Headquarters Services Directorate for Information, Operations, and Reports (DIOR). Includes only full-time, permanently assigned military and civilian personnel and excludes part-time, temporary, and transitional personnel and National Guard and military reserves. Personnel on military vessels home-ported in the state (in Virginia, about 39,000) are included in Tables 1, 3, and 4, but, for historical comparisons, excluded from the graphs.



Table 4

# 2006 Department of Defense Employment—Military and Civilian by Service Branch, Region, and Locality/Installation

|                     | Total Defense |        |             |           |           | Military Personnel |        |             |           |        | Civilian Personnel |          |           |           |  |
|---------------------|---------------|--------|-------------|-----------|-----------|--------------------|--------|-------------|-----------|--------|--------------------|----------|-----------|-----------|--|
|                     | Total         | Army   | Navy (1)(2) | Air Force | Other (3) | Total              | Army   | Navy (1)(2) | Air Force | Total  | Army               | Navy (1) | Air Force | Other (3) |  |
| Virginia            | 209,857       | 45,331 | 126,340     | 18,436    | 19,750    | 128,515            | 24,084 | 90,758      | 13,673    | 81,342 | 21,247             | 35,582   | 4,763     | 19,750    |  |
| Hampton Roads       | 107,102       | 9,259  | 85,684      | 10,591    | 1,568     | 92,632             | 6,250  | 77,742      | 8,640     | 14,470 | 3,009              | 7,942    | 1,951     | 1,568     |  |
| Chesapeake          | 559           | 1      | 556         | 2         | -         | 420                | -      | 418         | 2         | 139    | 1                  | 138      | -         | -         |  |
| Ft. Eustis          | 7,928         | 7,771  | 17          | 3         | 137       | 5,336              | 5,323  | 13          | -         | 2,592  | 2,448              | 4        | 3         | 137       |  |
| Ft. Story           | 635           | 574    | 61          | -         | -         | 571                | 510    | 61          | -         | 64     | 64                 | -        | -         | -         |  |
| Hampton             | 140           | 78     | 5           | 4         | 53        | 4                  | -      | 2           | 2         | 136    | 78                 | 3        | 2         | 53        |  |
| Langley AFB         | 10,400        | 20     | 3           | 10,211    | 166       | 8,304              | -      | 2           | 8,302     | 2,096  | 20                 | 1        | 1,909     | 166       |  |
| Nansemond           | 224           | -      | 224         | -         | -         | -                  | -      | -           | -         | 224    | -                  | 224      | -         | -         |  |
| Newport News        | 525           | 8      | 476         | 6         | 35        | 106                | -      | 101         | 5         | 419    | 8                  | 375      | 1         | 35        |  |
| Norfolk             | 58,541        | 627    | 56,862      | 275       | 777       | 56,271             | 280    | 55,750      | 241       | 2,270  | 347                | 1,112    | 34        | 777       |  |
| Portsmouth          | 3,849         | 25     | 3,728       | 18        | 78        | 3,309              | -      | 3,291       | 18        | 540    | 25                 | 437      | -         | 78        |  |
| Suffolk             | 410           | 9      | 340         | 59        | 2         | 82                 | -      | 24          | 58        | 328    | 9                  | 316      | 1         | 2         |  |
| Virginia Beach      | 21,933        | 143    | 21,479      | 5         | 306       | 16,509             | 137    | 16,368      | 4         | 5,424  | 6                  | 5,111    | 1         | 306       |  |
| Williamsburg        | 139           | 3      | 132         | 4         | -         | 59                 | -      | 55          | 4         | 80     | 3                  | 77       | -         | -         |  |
| Yorktown            | 1,819         | -      | 1,801       | 4         | 14        | 1,661              | -      | 1,657       | 4         | 158    | -                  | 144      | -         | 14        |  |
| Northern Virginia   | 60,908        | 23,589 | 16,166      | 7,310     | 13,843    | 27,210             | 10,819 | 11,550      | 4,841     | 33,698 | 12,770             | 4,616    | 2,469     | 13,843    |  |
| Alexandria          | 7,907         | 7,094  | 150         | 107       | 556       | 4,455              | 4,266  | 113         | 76        | 3,452  | 2,828              | 37       | 31        | 556       |  |
| Arlington           | 25,197        | 6,794  | 5,119       | 6,310     | 6,974     | 9,951              | 2,602  | 3,287       | 4,062     | 15,246 | 4,192              | 1,832    | 2,248     | 6,974     |  |
| Chantilly           | 234           | 3      | 195         | -         | 36        | 159                | -      | 159         | -         | 75     | 3                  | 36       | -         | 36        |  |
| Fairfax             | 255           | 4      | 5           | 210       | 36        | 213                | -      | 4           | 209       | 42     | 4                  | 1        | 1         | 36        |  |
| Falls Church        | 2,596         | 434    | 42          | 183       | 1,937     | 305                | 140    | 14          | 151       | 2,291  | 294                | 28       | 32        | 1,937     |  |
| Ft. Belvoir         | 10,468        | 6,953  | 173         | 310       | 3,032     | 2,522              | 2,126  | 153         | 243       | 7,946  | 4,827              | 20       | 67        | 3,032     |  |
| Ft. Myer            | 2,307         | 2,200  | -           | -         | 107       | 1,685              | 1,685  | -           | -         | 622    | 515                | -        | -         | 107       |  |
| Manassas            | 156           | -      | 8           | 2         | 146       | 3                  | -      | 1           | 2         | 153    | -                  | 7        | -         | 146       |  |
| Quantico            | 10,689        | 2      | 10,360      | 19        | 308       | 7,836              | -      | 7,817       | 19        | 2,853  | 2                  | 2,543    | -         | 308       |  |
| Rosslyn             | 524           | 71     | -           | 168       | 285       | 78                 | -      | -           | 78        | 446    | 71                 | -        | 90        | 285       |  |
| Springfield         | 450           | 27     | -           | -         | 423       | -                  | -      | -           | -         | 450    | 27                 | -        | -         | 423       |  |
| Woodbridge          | 125           | 7      | 114         | 1         | 3         | 3                  | -      | 2           | 1         | 122    | 7                  | 112      | -         | 3         |  |
| Richmond            | 12,415        | 7,923  | 552         | 270       | 3,670     | 6,634              | 6,040  | 535         | 59        | 5,781  | 1,883              | 17       | 211       | 3,670     |  |
| Ft. Lee             | 8,693         | 7,518  | 251         | 23        | 901       | 6,140              | 5,870  | 247         | 23        | 2,553  | 1,648              | 4        | -         | 901       |  |
| Richmond            | 3,413         | 297    | 301         | 46        | 2,769     | 494                | 170    | 288         | 36        | 2,919  | 127                | 13       | 10        | 2,769     |  |
| Sandston            | 309           | 108    | -           | 201       | -         | -                  | -      | -           | -         | 309    | 108                | -        | 201       | -         |  |
| Remainder of State  | 29,432        | 4,560  | 23,938      | 265       | 669       | 2,039              | 975    | 931         | 133       | 27,393 | 3,585              | 23,007   | 132       | 669       |  |
| Charlottesville     | 909           | 844    | 31          | 27        | 7         | 262                | 205    | 30          | 27        | 647    | 639                | 1        | -         | 7         |  |
| Dahlgren            | 4,493         | -      | 4,346       | 86        | 61        | 720                | -      | 686         | 34        | 3,773  | -                  | 3,660    | 52        | 61        |  |
| Radford             | 106           | 102    | -           | -         | 4         | -                  | -      | -           | -         | 106    | 102                | -        | -         | 4         |  |
| Wallops Flight Ctr. | 129           | -      | 129         | -         | -         | 77                 | -      | 77          | -         | 52     | -                  | 52       | -         | -         |  |
| Winchester          | 310           | 307    | -           | 3         | -         | 3                  | -      | -           | 3         | 307    | 307                | -        | -         | -         |  |
| Other               | 23,485        | 3,307  | 19,432      | 149       | 597       | 977                | 770    | 138         | 69        | 22,508 | 2,537              | 19,294   | 80        | 597       |  |

Source: DoD Distribution of Personnel by State and by Selected Locations, Washington Headquarters Services Directorate for Information, Operations and Reports (DIOR)

(1) Includes Marine Corps personnel.

(2) Includes military personnel afloat.

(3) The other category within the civilian sector consists of all DoD personnel not classified as Army, Navy/Marine Corps, or Air Force.

## Performance of Indicators Over the Business Cycle

For those interested in studying the business cycle in Virginia, this publication includes several of the economic time series for which data is readily available on a monthly basis. From time to time, new series will be added and, if necessary, others presently included will be discontinued.

### Business Cycle Turning Points

The beginning of a recession is defined as the month when aggregate economic activity in the U.S. reaches a cyclical high, from which it begins to turn down, and the end as the month when it reaches a cyclical low, from which it begins to turn up. On November 26, 2001, the National Bureau of Economic Research (NBER) announced a recession had begun in March 2001. On July 17, 2003, NBER announced the recession ended in November 2001.

### Seasonal Adjustment

To correlate changes in a time series and changes in the business cycle, it is desirable to eliminate, insofar as possible, the effect of irrelevant factors from the data comprising the series. All series currently published in the *Virginia Economic Indicators* have been adjusted to minimize regular seasonal fluctuations in the data in order to show only activity related to the business cycle.

### Historical Graphs

Historical graphs are published in the back of the fourth quarter issue for each year.

### Data Sources

|   |   |
|---|---|
| <b>U.S. Census Bureau:</b>                    | Average Weekly Initial Claims                 |
| Single Family Housing Permits                 | Deflated Average Hourly Earnings              |
| <b>Virginia Department of Motor Vehicles:</b> | Deflated Average Weekly Earnings              |
| New Vehicle Registrations                     | Insured Unemployment Rate                     |
| <b>Virginia Department of Taxation:</b>       | Manufacturing Employment                      |
| Deflated Taxable Retail Sales                 | Nonagricultural Wage                          |
| Taxable Retail Sales                          | and Salary Employment                         |
| <b>Virginia Employment Commission:</b>        | Total Production Hours                        |
| Average Hourly Earnings                       | Total Unemployment Rate                       |
| Average Weekly Earnings                       | Unemployment Insurance Final Payments         |
| Average Weekly Hours                          | <b>Virginia State Corporation Commission:</b> |
|   | New Business Incorporations                   |



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Virginia Employment Commission  
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Richmond, Virginia 23218-1358



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